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BREAST SURGERY

BREAST HEALTH CARE IN DEVELOPING COUNTRIES - TIME FOR A PARADIGM CHANGE

P. Raghu Ram
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Introduction

Although cervical cancer is most common cancer affecting women in India, the incidence of Breast cancer has overtaken cervical cancer to become the most common form of cancer affecting women in urban India. According to the Indian Council of Medical Research (ICMR) statistics, well over 100, 000 new cases of breast cancer are diagnosed each year in India. This is only the tip of the iceberg, as many breast cancers are not reported to the Cancer Registry. The most recent report from The Lancet Oncology states that worldwide breast cancer incidence and mortality are expected to increase by 50 percent from 2002 and 2020 - and those rates will be highest in developing Nations.

Breast healthcare - Current scenario in the developing World

Whilst working in the United Kingdom, my mother was diagnosed with early breast cancer in 2002. I discovered some starling facts about breast healthcare in India. Although breast cancer is managed by surgical oncologists, the vast proportion of both benign and malignant breast disease in India is largely managed by general surgeons. Breast surgery is not a subspecialty in developing countries. There are very few dedicated breast surgeons. Equally, very little effort is directed at empowering people about the importance of early detection of breast cancer & counseling patients is not considered to be an important component of breast cancer care. Whilst few cancer centers offer care on par with the best centers across the world, by and large, cancer care in the developing world is a lottery - with some getting excellent care, whilst most not. That there is huge variation in the survival of patients with breast cancer across this region is an understatement.

Breast surgery - an established subspecialty

Breast Surgery is now a recognized subspecialty of general surgery in the West with structured training for designated "Breast Surgeons". There are recognized training programmes in oncoplastic breast surgery abroad & over the recent years, Breast cancer care has been enhanced by the emergence of Specialist Breast Surgeon with training in oncoplastic surgical skills - Oncoplastic Breast Surgeon.

The "Breast Centre" Concept

There is now robust evidence from literature to suggest that outcome of patients with breast cancer is best when they are managed by well trained dedicated Breast cancer Specialists within the confines of "Breast Centers". Mirrored upon the World's First Breast Centre that was established by Professor Mel Silverstein in California, I conceived, designed and established India's First free standing, purpose built comprehensive Centre for Breast health in 2007, which has in many way set a benchmark for similar Breast Centers that have emerged in the Country over the past five years.

A dedicated Breast Surgical Society in India

The Voice for Breast Surgery in India - Dawn of a new era

In an effort to standardize the delivery of Breast healthcare and pave the way to develop Breast Surgery as a Subspecialty in India, I have proposed the formation of The Association of Breast Surgeons of India (ABSI). Functional since March 2011, ABSI is the FIRST & ONLY

Organization in the Indian Subcontinent that represents General Surgeons, Surgical Oncologists and Plastic Surgeons involved in the management of Breast disease. ABSI also aims to create public awareness about the importance of early detection of breast cancer & strengthen the concept of "patient advocacy". ABSI intends to impress upon the Government of India that early detection of breast cancer must become a National priority. We will be partnering with the Departments of Health in every State across the Country at implementing meaningful initiatives that will help improve breast healthcare within the Community. ABSI has been established along similar lines to dedicated Breast Surgical Societies that have evolved over the past 10 years - The American Society of Breast Surgeons (largest Society of Breast Surgeons in the World), Association of Breast Surgeons in United Kingdom & Association of Breast Surgeons of Australia & New Zealand are some examples.

Conclusion

There is a need for a paradigm shift in the management of breast cancer and indeed breast health care in the developing world. The concepts of Oncoplastic Breast Surgery, Breast specialists, Breast Centers & the subspecialty of Breast Surgery are all bound to improve the delivery of breast healthcare in the developing World as well. The Association of Breast Surgeons of India has a potential to serve as a benchmark Organization for similar Associations to be formed in the developing world. There are turning points in everyone's life. Having worked at world renowned Centers of excellence in the UK, the unexpected diagnosis of breast cancer to someone so close to me coupled with the current state of breast cancer care in India became the turning point and defining moment in my life. I must confess that working towards improving breast healthcare in a Country that I was born and raised has indeed given me far greater satisfaction than being part of an established Healthcare System in the United Kingdom.

BREAST CANCER SCREENING IN THE DEVELOPING WORLD - FACTS, REALITIES & SOLUTIONS

P. Raghu Ram

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There is very little awareness about the importance of early detection of Breast cancer in the developing world and there is no organized, population based breast screening programme in developing Countries. According to statistics from the World Health Organization, fewer than 5% of women between 50 and 69 undergo breast screening in India. Compared to the West where the incidence of breast cancer rises from the age of 50 years, the majority of breast cancers in India are diagnosed at least a decade younger with far more people being diagnosed in the 30s and 40s. More than 70% of breast cancers present in an advanced stage and the death rate is consequently very high. These statistics are more or less similar in other developing Countries as well.

Realities

Although introduction of an organized, population-based breast screening programme using mammography is the best proven way of detecting cancers in the impalpable stage, it is not a viable option for mass screening in India and the developing world owing to the enormous costs involved, the huge variation in mammographic reporting and also because of the fact that the vast majority of breast cancers are diagnosed under the age of 50 years, where the benefit of screening mammography is doubtful.

Solution

Clinical breast examination (CBE), where trained healthcare workers examine the breasts of women aged between 35 - 65 years, is a relatively simple & inexpensive screening tool and there is circumstantial evidence to show that CBE may be a viable option as a screening tool in developing Countries. There is an ongoing large randomized controlled trial being conducted in Mumbai (India) to evaluate the efficacy of CBE as a mass screening tool. Although CBE will not be able to detect very small tumors that can be seen only on Screening mammography, it still has the potential to downstage the cancer and thereby reduce mortality from this disease. More importantly, CBE presents an excellent opportunity for healthcare providers to educate women about the importance of early detection of breast cancer. Established in Sept 2007, Ushalakshmi Breast Cancer Foundation (UBF) is a non profit Organisation based out of Hyderabad (the capital city of the Southern State of Andhra Pradesh, India) that has been working towards improving the delivery of breast healthcare in the State of Andhra Pradesh. UBF has recently embarked upon reaching out to the Community by making a meaningful impact at implementing, inexpensive, viable and most importantly sustainable community based Breast Cancer Screening Programme aimed at early detection of breast cancer, which hopefully would translate into saving more lives. UBF will train Health Care Workers (Community Resource Persons-CRPs) in Hyderabad District through well established and well researched audio visual aids about the importance of breast awareness and early signs of breast cancer. Equally, they will be trained to perform Clinical breast examination (CBE), a screening tool to detect early breast cancer. Following the Training Session, Health care Workers will conduct Breast

Education sessions and implement screening by way of performing Clinical Breast Examination (CBE) to women between the ages of 35 - 65 years in this region. If the Screening assessment is normal, these women would be enrolled to another round of Education Session after 6 months and Clinical Breast Examination (CBE) at two yearly intervals. Any suspicious lump detected through this initiative would be dealt by the District health Officials in close association with Gynecologists, General Surgeons and Oncologists in the region. UBF will also assist the Hyderabad District Health Officials in coordinating the data collection relating to outcome and survival of those women detected with breast cancer through this initiative over the next ten years.

Conclusion

The singular aim of CBE is early detection of breast cancer. Should this Programme achieve success, CBE will be replicated throughout the State of Andhra Pradesh. Equally, it is a great potential to be used as a Breast cancer Screening tool in low and middle resource countries across the developing World.

SHORT-TERM OUTCOMES AND ONCOLOGIC SAFETY OF AUTOLOGOUS DERMAL FAT GRAFTING IN BREAST CONSERVATION THERAPY

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Purpose: A novel technique of breast reconstruction in breast conserving surgery (BCS) has been introduced by using autologous free dermal fat graft (FDFG). This study is to evaluate the efficacy of using FDFG in a short-term period.

Patients and Methods: From January 2007 to December 2010, retrospective medical records reviewed a total of 96 women who underwent wide excision and breast reconstruction with autologous FDFG from the lower abdomen. Patients and tumor characteristics were obtained. Follow-up radiologic imaging at 6 months post-operative procedure was routinely performed. Complications of the FDFG and abdomen were noted along with the disease recurrence.

Results: The majority of patients (95.8%) received immediate breast reconstruction. The average operative time was 94.2 minutes (range 30-180). The majority of patients (81.3%) was diagnosed with invasive cancer; invasive ductal carcinoma, 2 (2.1%) invasive lobular carcinoma, 2 (2.1%) invasive papillary carcinoma, ductal carcinoma in situ 13.5%, and malignant phyllodes 1%. The tumor size varies from tumors ≤ 2 cm (41.7%), 2.1-5 cm (40.6%), > 5 cm (4.2%), and in situ disease (13.5%). The margin of excision was free of tumor 71.9%, close margin 22.9%, and positive margin 5.2%. Eleven patients needed a second operation; 7 underwent re-excision without removal of the FDFG,1 needed re-excision twice, and 3 required total mastectomy. Disease recurrence occurred in 7 patients (7.3%). Four patients (4.2%) had the disease recurrence to the ipsilateral breast. Two patients (2.1%) had distant metastasis. One patient recurred with an ipsilateral breast cancer and bone metastasis. The average time to disease recurrence was 56 weeks (range 21-145). The majority of the patients' status (92, 95.8%) at the last follow-up visit was alive without disease. The overall survival was 98.9% at 199 weeks. The disease-free survival was 95.5% at 1 year and 83.7% at 145 weeks. The FDFG complications were reported in 7 patients (7.3%). Two patients had mastitis which was successfully treated with antibiotics. One patient had mastitis that required incision and drainage. Two patients had mastitis which turned into graft necrosis and had FDFG removed. No major morbidity and mortality was noted at 30-day postoperative period. The graft survival rate was 97.8% at 199 weeks. There was no correlation between the FDFG complications and the patient's characteristics, surgical procedure, timing of reconstruction, size, staging, nor adjuvant treatment.

Conclusion: The use of autologous FDFG for breast reconstruction in BCS is efficient for early breast cancer lesions, with minimal complications and no 30-day morbidity and mortality. This method is valid in detection of local recurrence without interfering with the radiologic imaging reports which ensures oncologic safety in a short-term period. However, evaluation of the aesthetic outcomes is warranted in future studies.

EFFICACY OF INTRAOPERATIVE ONE-STEP NUCLEIC ACID AMPLIFICATION ASSAY FOR DETECTION OF BREAST CANCER METASTASES IN SENTINEL LYMPH NODE

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Background: Sentinel lymph node biopsy (SLNB) became the standard procedure for non-palpable axillary lymph node evaluation. The one-step nucleic acid amplification (OSNA) assay is the method for detection of

lymph node metastasis in breast cancer that covers the process from the homogenization of lymph nodes through gene amplification in one step.

Objectives: We performed this study to evaluate the sensitivity, specificity and accuracy between OSNA, frozen section and permanent histological findings. Turnaround time of intraoperative OSNA assay was also considered.

Methods: In total, 111 SLN samples from 62 patients were analyzed. Each SLN was cut into 4 pieces of 2-mm sections. Two were subjected to OSNA assay and other 2 were send for histopathological evaluation, both frozen section and permanent section. Binomial distribution analysis with 95% confidence interval (95%CI) was used for all diagnostic values analysis.

Results: The sensitivity and specificity of the OSNA compared with permanent section were 84.6% (95%CI, 57.8%-95.7%) and 91.8% (95%CI, 84.7%-95.8%), respectively, before discordant case analyses. Sensitivity and specificity after discordant case analysis were 85.7% (95% CI, 60.0%-96.0%), 92.8% (95% CI, 85.8%-96.5%) and the accuracy was 91.9% (95% CI, 85.3%-95.7%). Turnover time of OSNA assay after gaining experience was around 40 minutes.

Conclusions: The OSNA assay proved to have high accuracy and reliability for evaluation of lymph node metastases in breast cancer patients. This tool can be used intraoperatively since the processing time is within acceptable limits.

PREDICTING FACTORS FOR RECURRENCE AFTER INITIAL LUMPECTOMY IN DUCTAL CARCINOMA IN SITU

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Background: Currently, ductal carcinoma in situ (DCIS) can be earlier detected by screening mammogram. Removal of tumor is curative treatment but higher chance of recurrence compared to mastectomy. We assess potential predictors which influence recurrent disease in DCIS breast cancer patients after initial lumpectomy.

Method: Pure DCIS patients diagnosed at breast clinic during January 1999 to December 2010 were included. Age, leading presentation, and cancer characteristics such as multifocal-extensive disease, surgical margins etc., were assessed as potential predictors.

Results: Among 135 patients, positive surgical margin was found in 26 patients (20.6%), close margin, negative margin and unknown status were found in 45, 54 and 1 patients (35.7%, 42.9% and 0.8%, respectively. Of 22.3 ± 19.8 months mean follow-up time, 13 patients (9.6%) had recurrence disease (mean recurrent time 34.8 ± 25.2 months). Positive and close margin status is the only statistical significant factors of recurrence (63.5% and 14.5%, p-value 0.001). Abnormal finding in mammogram, tumor grade 3 and positive of HER 2 receptor seem to increase risk in recurrent group (36.4% vs 15%, p-value 0.09; 77.8% vs 47.2%, p value 0.09; 100% vs 43.1%, p-value 0.093, respectively) while tumor size ≤ 1 cm. and hormonal treatment after removal decrease risk of recurrence (10% vs 40.2%, p-value 0.09; 42.9% vs 78% p-value 0.059, respectively) but not statistically significant.

Conclusion: Margin status is the most important factor to predict recurrence in DCIS patients who underwent initial lumpectomy.

CARDIOTHORACIC SURGERY

THE UK MODEL OF CARDIOTHORACIC TRAINING

Professor Peter Goldstraw

National Heart and Lung Institute Imperial College, London

The UK has a National training programme in Cardiothoracic Surgery which is blueprinted to the national curriculum covering Adult and Congenital Cardiac and Thoracic surgery. In the past 5 years it has undergone one of its periodic convulsive revisions which has resulted in a National recruitment process. There are many stakeholders in this process; the Universities and Medical Schools, the General Medical Council, the Confederation of Postgraduate Medical Deans of the UK and the Royal Colleges. The role of each organisation will be explained. Central manpower estimates of the specialist requirements in the next 5-10 years dictate the numbers of trainees entering the programme. The requirements for entry, the selection process and the formative assessments during training, which must comply with 17 standards required by the GMC[1] will be described. The following speaker will

explain the summative assessment undertaken to examine the knowledge based component of the curriculum leading to the award of the specialist fellowship in Cardiothoracic Surgery and I will conclude by explaining the requirements for entry to the specialist register at the end of training which allows trainees to apply for consultant positions.

[1]Standards for curricula and assessment systems. General Medical Council. www.gmc_uk.org.

THE NEW TNM CLASSIFICATION FOR LUNG CANCER: IMPLICATIONS FOR CLINICAL CARE AND RESEARCH

Professor Peter Goldstraw

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The publication of any new TNM classification is always a major event for those clinicians and researchers involved in the study and treatment of a particular cancer. This was especially the case with the launch of the 7th Edition of the TNM Classification for Lung Cancer[1;2], being the first revision for 12 years and the most radical for 35 years. Unfortunately the scientific rigour of the analytical process required that it broke with the convention that each new edition was retrospectively compatible with earlier editions[3], and this will almost certainly be the case with future revisions. The collection of raw data is recommended to "future proof" data in the long term. Once the 7th edition was enacted on January 1st 2010 all new cases of lung cancer should be classified by the new edition. It has been estimated that for 1 in 6 cases this would result in a different stage being assigned compared with the 6th edition[4]. The 7th edition is the first to incorporate carcinoid tumours into the TNM classification, and to emphasise the use of TNM in the clinical management and trial design for small-cell lung cancer (SCLC). It provided pathologists with the first standardised definition of "visceral pleural invasion" and provided clinicians and researchers with an internationally agreed nodal map, reconciling the discrepancies between previously used maps. There are now precisely defined anatomical boundaries for each nodal station, which alongside the new map, are recognised as the recommended means of describing regional lymph node involvement for lung cancer. Such standardisation is important as the 7th edition has established a minimum number of lymph nodes to be removed by the surgeon and examined by the pathologist when establishing the pN category of any resection case. The anatomical extent of disease, as described by the TNM classification, does not mandate treatment options but is certainly a major factor in this decision. The 7th edition incorporates additional size cut-points, new T sub-categories and a re-classification of cases in which there are additional tumour nodules in certain locations. Some of the resulting TNM stage groupings have been upstaged and some down-staged, more closely aligning stage with prognosis. In situations in which cases that have been traditionally treated surgically have been upstaged in the 7th edition one may wonder if these cases should now be considered for adjuvant therapy after complete resection. Where cases previously considered to be inoperable have been down-staged one may wonder if selected cases in these categories should now be considered for surgical treatment, albeit in a multi-modality setting. It is important that these suggestions are tested in appropriate clinical trials before such changes in the treatment algorithm are accepted as a new standard of care.

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(2) Goldstraw P. IASLC Staging Manual in Thoracic Oncology. 1st ed. Florida, USA: Editorial Rx Press; 2009.

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(4) Kassis ES, Vaporciyan AA, Swisher SG, Correa AM, Bekele BN, Erasmus JJ, et al. Application of the revised lung cancer staging system (IASLC Staging Project) to a cancer center population. Journal of Thoracic and Cardiovascular Surgery 138, 412-418. 2009.

THORACOADBOMINAL AORTIC ANEURYSMS: THE SCOTTISH PATHWAY

Prof Robert R. Jeffrey

Department of Cardiothoracic Surgery, Aberdeen Royal Infirmary NHS Trust, Foresterhill, Aberdeen

The talk will describe the classification and pathology of the thoracic aorta and consider the management options of this challenging area of surgery. The role of open surgery, interventional radiology and hybrid procedures will be considered. The results of the various interventions will be presented with the recent recomendations contained within the guidelines on TEVAR by the European society.

LUNG CANCER: MULTIDISCIPLINARY APPROACH

Sawang Saenghirunvattna MD, Suchat Jerajakwatana MD, Picheth Charoensiriwath MD, Yada Louischaroen MD, Phuchai Pitakkitnukun MD, Surapol Worapongpaibul MD, Sakpisid Nawasiri MD, Nuanjai Boonthum MD, Chanawat Tesavibul MD, Thaninthorn Anuntasoraruk,

Juthamas Kuesakul CM.D, Patima Pornpojamarn, Apirak Panyadee, Penchan Vichitsang, Sarunya Trakulmoon, Duangjai Noochthongmuang

Samitivej Sukhumvit Hospital, Bangkok Hospital Group

We established lung cancer multidisciplinary team comprising a group of expert chest physicians, surgeons, oncologists, radiation oncologists, nurses, nutritionists, pharmacists and other health care professionals with a special interest in the diagnosis,treatment and management of patient with lung cancer. The approach ensures that all necessary investigations are carried out as quickly as possible and an agreed programme of treatment is planned which is specific to the patient's need. Treatment options are then discussed with the patient and family and started without delay,complying with standard of care and optimal approaches to supportive and palliative care. Recently,we have offered minimal invasive techniques such as endobronchial ultrasound guided transbronchial needle aspiration (EBUS-TBNA) and endobronchial ultrasound with guide sheath (EBUS-GS) to make rapid diagnosis and staging of lung cancer, Autofluorescence bronchoscopy is also used to identify early stage of lung cancer. The next approach and research study will be molecular diagnoses and pathology which will lead to targeted therapies in molecularly defined patients subpopulations for clinical trials and clinical practice.

FLOW RATES OF FLUID THROUGH PERIPHERAL VENOUS CATHETER VS CENTRAL VENOUS CATHETER, A COMPARISON STUDY

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Background: Many textbooks or guidelines suggest a large-bore peripheral venous catheter placement in case of patients in an urgent need of vigorous fluid resuscitation, e.g., traumatic or severe blood loss from surgery, profound shock from other causes, etc. Still, a number of medical personals and students have a misperception of this practice. They believe with misunderstanding that rate of fluid flowing via a large-bore catheter insertion of a central venous line is faster than that of a peripheral venous line.

Objective: To compare catheters of two sizes commonly used in daily practice, in order to find out which one delivers a faster fluid flow rate.

Materials and Methods: Two experiments have been conducted in the same environment with same basic equipments. The constant factor set was composed of 0.9 % normal saline in a plastic bottle, an intravenous drip set, a pressure monitoring set, a manual pneumatic compression pressure bag, and a uroflowmeter. The variable factors were a 16-gauge (I.D. 1.3×51 mm) peripheral catheter and a 14-gauge distal lumen of 7 Fr double lumen (O.D. 2.3 mm × 200 mm) central catheter. The two experiments were conducted under two conditions each: gravity-fed and constant manual pressure of 300 mmHg. The room temperature was 27 °C on the experiment date. The flow rates were recorded and analyzed with student t-test.

Results: Under the gravity-fed condition, the mean flow rate through the 16-gauge peripheral catheter was 2.23 ml/s, while the mean flow rate through the 14-gauge central catheter was 1.40 ml/s. The flow rate difference of the two experiments was statistically significant. Under the steady manual pneumatic compression pressure at around 300 mmHg, the mean flow rate through the 16-gauge peripheral catheter was 4.27 ml/s, while the mean flow rate through the 14-gauge central catheter was 3.03 ml/s. The flow rate difference of the two experiments was statistically significant.

Conclusion: This study has confirmed the truth of daily device use in medical practice. The large-bore peripheral venous catheter can deliver fluid volume in a faster rate than that of the central venous catheter. The reason is, with a shorter length, inner surface resistance of the large bore peripheral venous catheter is less than that of the central venous catheter. Thus, the longer of the tube, the slower of the fluid flow rate.

Therefore, the appropriate practice of fluid delivery for the patients in an urgent need of vigorous fluid resuscitation is the large-bore peripheral venous catheter.

NEW TECHNIQUE OF RIGID CHEST WALL RECONSTRUCTION IN THE YEAR 2010 : RAPID PROTOTYPE PROSTHETIC RIB

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Objective: The joining of medical 3D reconstruction of CT data to rapid prototyping techniques, that now allows the production of solid copies of the patient' s bones and soft tissues with rapid prototyping technology is widely used in field of maxillofacial and dental surgery. Now we present the preoperatively prepared rapid prototype prosthetic ribs (RPPR) as the new technique of rigid support in field of thoracic surgery .

Methods: We present the new technique for

reconstruction of the large chest wall defect in a 68-year-old man who suffered from left anterior chest wall tumor. After total resection of the 4th, 5th, 6th ribs together with anterior half of the 3rd rib and left upper lobectomy, immediate closure of the defect was performed.

The custom-made polymethylmetacrylate ribs which preoperatively prepared by rapid prototyping technique was implanted for rigid support. Coverage achieved using latissimusdorsi flap.

Result: Operation succeed without incidence. The patient is doing well 24 months after surgery with good function and cosmetic. No sign of recurrence is observed during follow-up.

Conclusions: This method simplifies reconstruction with preoperative plan in comparison with established techniques concerning rigid coverage. Advanced making of prosthetic rib with preoperative personalized design giving advantages of this new technique include (1) providing good function and cosmesis, (2) no adjunctive use of mesh or patch because of optimal anchorage design of the prosthesis, (3) avoidance of heat injury to adjacent tissue during polymerization phase as in established technique with methylmethacrylate substitute.

THE EFFECT OF EXTRACORPOREAL CIRCULATION AND CROSS CLAMPING PERIOD ON ERECTILE DYSFUNCTION IN CARDIAC SURGERY PATIENTS IN PHRAMONGKUTKLAO HOSPITAL: ONE-YEAR FOLLOW-UP STUDY

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Introduction: Erectile dysfunction (ED) impacts on quality of life of the patients and the partners. The aim of this prospective study was to evaluate the effects of extracorporeal circulation and cross clamping period on erectile dysfunction in cardiac surgery patients in Phramongkutklao hospital. We investigated the effects of extracorporeal circulation and cross clamping period and the dynamic of ED, and studied the associated risk factors in our patients at one year follow-up study.

Materials and Methods: This is the longitudinal follow-up study of the cardiac surgery patients (N=333) in Phramongkutklao hospital. Designed self-administration questionnaires including International Index of Erectile Dysfunction (IIEF-5) were collected from the male cardiac surgery patients on pre-operative, 6-month and 12-month post-operative periods. (Between June/2010-June/2011) Statistical analysis: Discrete variables were analyzed by chi-squared testing and continuous variables by paired or unpaired t-test as appropriate. Statistically significance was defined as $p < 0.05$.

Results: A cohort of 333 men (mean age 58.97 ± 14.15) was enrolled. The operations in details were (1) CABG only 45%, (2) CABG with valvular heart disease 6%, (3) Valvular heart disease only 41% (4) Congenital heart disease 3%, and (5) Others cardiac surgery 5%. A comparison of the prevalence of erectile dysfunction in pre-operative, 6-months and 12-month postoperative periods were demonstrated 91.6%, 84.1% and 79.5% respectively with statistically significance (p-value <0.001). The prevalence associated with the IIFE-5 score was increased from 11.89±7.49 in pre-operative to 12.69±7.90, 13.17±8.28 in 6-month and 12-month postoperative periods respectively with statistically significance (p-value <0.05). The risk factors that associated with increase in ED in this study revealed that advanced age and Bata-blocker use (3.8 [95%CI=1.59-9.07]) were of high risk. The total by pass time (1.49 [95%CI=0.34-6.50]) and the aortic cross clamping period (0.72 [95%CI=0.17-3.10]) did not affect ED.

Conclusions: Twelve percent of post-operative cardiac surgery patients had improved in their ED symptoms at one year follow-up. Post-operative cardiac surgery, the patients have better cardiac function, psychological and erectile function, even using extracorporeal circulation and cross clamping period. Further study on other effects such as hormonal, hypoperfusion that related to ED and extracorporeal circulation should be done in the future.

PRE-OPERATIVE PLASMA EXCHANGE IN MYASTHENIA GRAVIS. IS IT NECESSARY?

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Background: Myasthenia gravis is associated with circulating antibodies to acetylcholine receptor resulting in fluctuation of muscular weakness. Various drugs and procedures have been used as treatment in this condition. Thymectomy is one of the treatments used in myasthenic patients who failed medical treatment. And many studies reported very good outcomes. Remission rate is about 50% in 48 weeks and 91% in 10 years. Plasmaphreresis and IVIG

administration play important role in myasthenic patients with acute respiratory failure in terms of improving the clinical status of the patients and are currently used to improve pre-operative outcomes of thymectomy.

Objective: To compare the peri-operative and post-operative outcomes of thymectomy in myasthenic patients with or without pre-operative plasmaphreresis or IVIG administration.

Patients and Method: We conducted retrospective study chart review in Chiang Mai University Hospital. From January, 2006 to December, 2011, thymectomy was performed in 79 myasthenic patients. Primary outcome was post-operative extubation. Secondary outcome included post-operative complication, 28-day mortality and the length of hospital stay.

Results: Seventy-nine patients were enrolled in this study, including 22 males and 57 females. Most of the patients were classified as stage IIB (Osserman classification) and there was no statistically significant difference between each group. Post -operative extubation was 90.3 percent in plasmaphreresis group and was 93.8 percent in control group (p = 0.674). Post-operative complication was 6.4 and 2.1 percent in plasmaphreresis group and control group, respectively (p=0.339). The length of hospital stay was 5.8 ± 3.7 days in plasmaphreresis group and 5.1 ± 2.0 days in control group (p= 0.308). There were only two patients who died within 28 days after the surgery, one in plasmaphreresis group (3.2 percent) and the other (2.1 percent) in control group (p= 1.000)

Conclusion: The results of this study show no statistically significant difference between each group in terms of primary post-operative extubation, post-operative complication, the length of hospital stay and 28-day mortality. Therefore, we can conclude that pre-operative plasmaphreresis or IVIG administration is not necessary for elective thymectomy in myasthenic patients.

LATE VALVE RELATED MORBIDITY AND MORTALITY IN PATIENTS WITH MECHANICAL VALVE REPLACEMENT

Somchai Waikittipong
Yala Hospital

Background: The problem of mechanical valve replacement is its late valve related morbidity and mortality.

Objectives: To report the incidence of late valve related morbidity and mortality in patients with mechanical valve replacement.

Materials and Methods: From Jan. 2001 to Feb. 2011, there were 24 patients underwent mechanical valve replacement at Yala Hospital. There were 9 hospital deaths and 25 patients were loss from follow up. So that, there were 208 patients (89.3%) remaining for the study. Follow up time ranged from 2 to 135 months, mean 71.2 ± 38.8 months. Patients data were collected from outpatient charts and Registration office of the Ministry of Interior.

Results: During follow up, 60 patients (28.8%) developed valve related complications. Of these, 34 patients (16.3%) died. By Kaplan - Meier survival analysis, freedom from all late valve related complications at 5 year and 10 year was 72.7% and 65.4% respectively. And freedom from all late valve related death at 5 year and 10 year was 84.5% and 79.5% respectively.

Conclusions: This study showed that patients with mechanical valve replacement could have significant late valve related morbidity and mortality.

COMBINED AORTIC VALVE REPLACEMENT AND EXTRA-ANATOMIC AORTA ASCENDING-DESCENDING BYPASS FOR POOR LEFT VENTRICULAR FUNCTION FROM BICUSPID AORTIC REGURGITATION WITH COARCTATION

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A 20-year-old man had presented with severe dyspnea on exertion, NYHA class III. His echocardiography showed moderate bicuspid aortic regurgitation with poor left ventricular function of 23% and post ductal coarctation with peak gradient of 30 mmHg. His condition was deteriorated and required emergency operation. During anesthesia, the patient developed cardiac arrest. Emergently, the patient underwent aorto caval cardiopulmonary bypass and combined aortic valve replacement with 23 mm. St. Jude valve and extra-anatomic aorta ascending-descending bypass was performed. Postoperatively, the patient improved without any significant morbidity. 1 year later, his left ventricular function was 54 % and no significant difference of blood pressure between upper and lower extremities.

OPEN HEART SURGERY: EARLY EXPERIENCE IN LAMPANG HOSPITAL

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Objective: To study patients' characteristics, variations of the heart diseases, operative techniques and operative results of open heart surgery from our initial experiences.

Design: Retrospective descriptive study.

Materials and Methods: We reviewed the medical records of the initial 441 cases of open heart surgery at Lampang Hospital between January 2010 and December 2011. Patient's demographic characteristics, preoperative New York Heart Association (NYHA) class, diagnosis of heart disease, operation, postoperative course, morbidity, and short-term follow up were reviewed.

Results: There were 260females and181males, average age 45.6 years (range from 6 years to 81years). 44 patients (10 %) were in NYHA class1, 245 patients (56%) were in NYHA class 2, 79 patients (18 %) were in NYHA class 3, and 73 patients (16 %) were in NYHA class 4. There were 384 patients(87%) with acquired heart diseases and 57 patients (13%) with congenital heart diseases. 375 patients (85%) could be extubated within 6 hours after operation and 405 patients (92%) stayed in ICU for only 1 day. The 30-day mortality occurred in 12 patients (2.72%). Most of our patients were in NYHA class 1 postoperatively.

Conclusion: We achieved acceptable morbidity and mortality rates in various operative procedures. Also the short-term results were good.

TWO CASES OF PULMONARY PARAGONIMIASIS IN CARDIOTHORACIC UNIT

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Backgound and Objective: Pulmonary paragonimiasis is rare. We reported our 2 interesting cases of this disease presented with nonmassive hemoptysis and were treated by surgery.

Materials and Methods: A 46-year-old married woman from Phrae and 47-year-old man referred from Phrae provincial hospital to Chest Unit, Department of Medicine, Lampang Hospital. Both of them presented with symptoms of coughing, nonmassive hemoptysis, pleuritic chest pain without weight loss. They both had abnormal cavitary nodule from chest x-ray with no previous film for comparison, sputum were negative for AFB, so that, pulmonologist sent them for CT Chest and consult cardiothoracic surgeon for surgery.

Results: Both cases underwent lobectomy.Pathology reports showed pulmonary Paragonimiasis (with helminth worms and eggs were demonstrated) which were treated with Praziquantel with unevenful recovery during follow up period.

Conclusion: we report two cases to remind the possibility of pulmonary paragonimiasis in patients of our endemic region presenting with compatible clinical features of pulmonary tuberculosis. In such situations, pulmonary paragonimiasis should be ruled out by sputum examination for the eggs of Paragonimus westermani. This will ensure an awareness for earlier recognition of this disease and may avoid surgery or potentially complicated clinical course.

INNOMINATE ARTERY AND DESCENDING AORTIC CANNULATION IN CARDIOPULMONARY BYPASS (CPB) TECHNIQUE FOR COMPLEX AORTIC ARCH SURGERY

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Background: Ascending aortic ± pulmonary artery cannulation along with circulatory arrest under deep hypothermia has become a usual technique for performing surgery on the complex aortic arch. In the recent study using moderate hypothermia with innominate artery and descending aortic perfusion can ameliorate the disadvantages of conventional technique of cannulation and deep hypothermia.

Objectives: This study was performed to evaluated the results of the new technique of perfusion routes in the complex aortic arch surgery.

Materials and Methods: A retrospective study was performed on 9 patients who received complex aortic arch repair between March 2010 and March 2012. The adverse outcomes included operative mortality, neurologic dysfunction, and renal dysfunction were analyzed.

Results: The median age of the patients was 2 months (ranging from 4 days to 28 years) and there were 6 males and 3 females. The principal diagnoses for the operation were coarctation of aorta with other anomalies such as ASD, VSD, congenital severe AS, severe AR, DORV, hypoplasia of aortic arch and interrupted aortic arch with VSD and PFO. All the patients underwent total repair in single operation. The mean cardiopulmonary bypass time was 137.1 ± 25.9 minutes, and the aortic cross-clamp time was 78.4 ± 24.04 minutes. The mean operative time was 226.67 ± 61.32 minutes. The median ICU stay time was 5 days (ranging from 3 days to 73 days). The mean lowest core temperature was 21.6 ± 1.3°C. There was no death, no neurologic dysfunction and no patient need dialysis.

Conclusion: The innominate artery and descending aortic perfusion routes with moderate hypothermia could be a good technique in treating the patients with complex aortic arch problem.

CATAMANIAL PNEUMOTHORAX AND LIVER PROTRUSION: AN UNUSUAL PRESENTATION

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Catamanial pneumothorax is a recurrent pneumothorax associated with menstruation. Diaphragmatic fenestration was one of the possible pathogensesis. We report the unusual case of a 45-year-old woman with recurrent right catamanial pneumothorax. She had a history of large myoma uteri and pelvic endometriosis requiring hormonal therapy. At thoracoscopy, diaphragmatic fenestration with large liver protrusion was seen with multiple pleural endometriosis. Treatment was accomplished with surgical pleurodesis only. This report shows uncommon findings of diaphragmatic fenestration, liver protrusion and pleural endometriosis.

SURGICAL RESCUE AFTER TRANSCATHETER OCCLUDER DEVICE FAILURE

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Background: Since 2007, Queen Sirikit Heart Center of the Northeast, KKU, transcatheter closure has become an alternative to operations for the treatment of atrial septal defect (ASD), ventricular septal defect (VSD) and patent ductus arteriosus (PDA). The advantages are less pain and shorter hospital stay. However, this procedure may be unsuccessful and developed complications that need surgical management immediately.

Objectives: To evaluate the outcome of surgical rescue after transcatheter occluder device failures.

Methods: Retrospectively analyzed the outcomes of patients who needed surgical treatment after failures of transcatheter closure for ASD, VSD or PDA.

Results: Between 2007 and 2011, 206 patients underwent transcatheter closure of ASD, VSD or PDA at our institution. There were 7 (3.4%) patients of this series whom required surgical rescue after transcatheter closure attempts which could be divided into 3 groups. Group I consisted of 4 patients who had a significant shunt caused by malposition or dislocation of the device. Among these, was one who showed serious intravascular hemolysis, hematuria and acute renal failure. Group II consisted of 2 patients. One had right atrial perforation causing cardiac tamponade. The other had atrial septum injury which proned to emboli Group III consisted of two patients, whom devices embolized into pulmonary artery. All of these underwent surgical rescue that included device removal and concomitant defect closure. There was no operative mortality and showed good follow up result.

Conclusions: Careful consideration should be given to surgical or transcatheter closure of a heart defect. Life-threatening complications, although rare, can occur. Our experience strongly suggests that these devices should only be inserted in facilities where cardiac surgical support is immediately available.

MITRAL AND TRICUSPID VALVE PEPLACEMENT IN PATIENT WITH DEXTROCARDIA

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Background and Objective: The literature was reviewed and found that dextrocardia with situs inversus is an uncommon defect, and the association of this congenital lesion with acquired valvular heart disease is even rarer. This is a rare disease for a new cardiac center in the Northern region of Thailand.

Material and Method: The patient was a 48-year-old woman with a history of cardiomegaly, cardiac murmur, atrial fibrillation, jaundice, Hepatosplenomegaly and pitting edema at both leg about a period of 4 months before referred from our rural hospital. The chest film revealed dextrocardia and situs inversus, cardiothoracic ratio of 0.81, increased pulmonary vascular markings, On 2D Echo: we found dextrocardia, LAE, RAE, RVH and D-shape LV. Overall LV systolic function were normal with an EF = 67%. The aortic valve was tri-leaflet and appeared structurally normal. MV mobility +2 valve thickening +3 subvalvular fusion +2 calcification +3 to +4 and severe MS MVA = 0.79 cm^2 by trace, MVA = 1.07 cm^2 by PHT, MPG = 6.11 mmHg. RAE, RVH with severe TR RVSP = 40.02 mmHg. Normal pericardium and minimal pericardial effusion. Finally she was scheduled for open heart surgery.

Results: The operation was performed in a usual fashion by replaced both mitral and tricuspid valve using bioprosthesis valves except for the surgeon was positioned on the left hand sided of the patient. The patient recovered uneventfully, returned to NYHA class one after 2 months of the follow up.

Conclusion: RHD with dextrocardia and situs inversus is very rare disease but can be treated safely if we recognized and well- prepared.

COLORECTAL AND ANAL SURGERY

EXTENSIVE MUTILATING CANCER SURGERY: WHICH DIRECTION SHOULD WE GO?

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Extensive mutilating cancer surgery such as pelvic exenteration is the immense investment for both patient and surgeon. Most of the procedures end up with deformity and affect patient's quality of life. If the disease is cured, then the investment is worth, but if it recurs in quite a short period of time, it is a disaster. The crucial part of doing an extensive operation is patient selection. Conventionally patients are selected base on "patient's factors" (How well the patient is?, co-morbidity, etc.), "tumor factors" (natural history of the disease, staging, imaging, etc.) and sometimes, "surgeon's factors" (How expertise the surgeon is?). These selection parameters are not good enough to guarantee for cure. Since the success in human genome project in 2003, the related technology has been transferred to medicine. Numbers of genes that play role in the recurrence, metastasis, or response to the treatment have been discovered. The pattern of genetic alternations present in individual tumors might be used to predict their clinical outcome. These could include outcome of surgery as well. Combination of "conventional clinical prognostic parameters" and "individual tumor molecular aberration" could be used as a better guide for patient selection for extensive mutilating cancer surgery.

LIGATION OF INTERSPHINCTERIC FISTULA TRACT (LIFT)

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Purpose: To present our technique of LIFT procedure.

Methods: Step-by-step approach of the LIFT procedure was clearly demonstrated in the video as follows. 1) Incision at the intersphincteric groove; 2) Identification of the intersphincteric tract; 3) Ligation of intersphincteric tract close to the internal opening and removal of intersphincteric tract; 4) Scraping out all granulation tissue in the rest of the fistulous tract; 5) Suturing of the defect at the external sphincter muscle

Description: This 27-year-old male presented with persistent perianal drainage. He underwent incision and drainage of perianal abscess 9 months prior to this procedure. He had good control of the anal sphincter and otherwise healthy. Physical examination showed anal fistula. The external opening was identified at the left anterolateral site, 4 cm away from the anus. Neither of the fistulous tract or internal opening was identified.

Endoanal ultrasound using hydrogenperoxide injection reveals straight transphincteric fistula tract. The animation showed the stepwise approach of the procedure. 1) Incision at the intersphincteric groove; 2) Identification of the intersphincteric tract; 3) Ligation of intersphincteric tract close to the internal opening and removal of intersphincteric tract; 4) Scraping out all granulation tissue in the rest of the fistulous tract; 5) Suturing of the defect at the external sphincter muscle. The patient was in the prone Jack knife position. Aizen-Hammer anal retractor is inserted to the anal canal. Intersphincteric groove was subsequently identified. Straight transphincteric fistula tract was demonstrated by the insertion of Lockheart Mammary anal fistula probe. Circum anal incision was made using 15 blade. The dissection was then proceeded to enter intersphincteric space. The fistula tract was clearly identified. Arterial clamps were applied on the identified tract, just next to the external portion of internal anal sphincter. Intersphincteric fistula tract was removed and sent to pathologist. 2-0 vicryl was used to close the internal opening of the anal fistula with horizontal mattress configuration. In this case, we also excised the external opening to make it easier for the drainage of chronic infection along the fistula tract. The same type of sutures was again used to repair the defect on external anal sphincter portion. Saline washed out was made. The skin was re-approximated with 3-0 vicryl suture. Local injection with 0.25% marcaine was given around the surgical site for postoperative pain control. Oral broad spectrum anti-biotics as well as fiber supplements were prescribed. The advice was given for the patient to do warm sitz bath and to continue taking the oral anti-biotics for one week postoperatively. The wound is generally healed within 2-6 weeks.

ANTERIOR ANAL SPHINCTER REPAIR, END-TO-END TECNIQUE: VIDEO EDUCATION

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Background: In cloacal deformity from obstetric injury usually come to hospital with total fecal incontinence symptoms. The result of anal sphincter repair in this group is quite good. The recent study shows result in improvement

of incontinence 56%, median follow up 8.8 years.

Objective: To show the technique of anterior anal sphincter repair with endto-end repair technique.

Material and Method: A case of 75 years old Thai woman who has symptoms of liquid incontinence for 30 years after obstetric injury with traumatic cloacal deformity, confirm diagnosis by EAUS that shows complete disruption of internal and superficial external anal sphincter muscle. After dissection of edges of superficial external anal sphincter muscle, end-to-end repair technique is performed with interrupted absorbable suture.

Result: The patient was discharged on 4th operative stay with improvement of incontinence symptoms. Follow-up at two weeks after operation, the patient become normal incontinence.

Conclusion: In anal sphincter injury from obstetric condition should be repair to improve fecal incontinence symptoms.

FISTULOTOMY WITH MARSUPIALIZATION

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Background: Fistulotomy has long been accepted as the gold standard for simple fistula-in-ano. The addition of marsupialization has been associated with less postoperative pain and accelerated wound healing. And it may also improve continence by minimizing deformities.

Method: We present a fistulotomy with marsupialization for a low transsphincteric fistula-in-ano.

Results: In our experience, marsupialization for anal fistulotomy is safe. This technique helps to improve the operative outcomes.

LIFT: A SPHINCTER-SAVING TECHNIQUE FOR HIGH TRANS-SPHINCTERIC FISTULA-IN-ANO WITH SUPRALEVATOR INTERSPHINCTERIC EXTENSION

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Background: The goals of surgery for fistula-in-ano are permanent healing and preservation of anal incontinence. Ligation of the intersphincteric fistula tract (LIFT) technique has been proposed that the advantages are applicable to almost all well formed anal fistula tracts, smaller wound, less tissue injury, less injury to anal sphincter, less pain, shorter hospital stay, short healing time simplified technique, low cost and minimal effect in case of re-operation. Many reports showed a success rate of 57-94.4% with minimal incontinence.

Method: We present a LIFT for a high trans-sphincteric fistula-in-ano with supralevator intersphincteric extension. In our case, high trans-sphincteric fistula-in-ano at left buttock with supralevator intersphincteric extension with 2 internal opening was diagnosed by per-rectal examination and magnetic resonance imaging.

Results: In our experience, LIFT technique, which aims at total anal sphincter preservation, appears to be a good option for complex fistula-in-ano.

AUTO SUCTION HEMORRHOID LIGATOR

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Background: Rubber band ligation is the most popular ambulatory procedure for hemorrhoid treatment. The traditional ligators need two people to perform the procedure, or the suction type ligators need connection to the suction unit. These are the difficulty to do the procedured in small clinic so the new hemorrhoid ligator which can easily maneuver by a single surgeon is required.

Objective: To invent a built-in-suction hemorrhoid ligator which can be used by single operator.

Materials and Method: An auto-suction hemorrhoid ligator was invented by incorporate a small suction unit into the handle of the ligator. The auto-suction ligator was used in twenty patients and evaluated at one month follow-up. Results: The auto-suction hemorrhoid ligator is easy to use in clinic. All patients were clinical and anoscopically improved without complications.

Conclusion: The auto-suction hemorrhoid ligator was invented. The device is user friendly, economical, and will be marketed in July 2012.

SIMPLIFIED ANAL SPHINCTER ANATOMY: THE INTERNATIONAL AUDIT

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Background: Details of the anal sphincter anatomy are controversial. Our anal sphincter anatomy findings from soft cadavers dissections are different from the literature.

Objective: To confirm that our findings are accurate, we had conducted the international anal anatomy audit. Material and Method: Ten stations of pre-dissected cadavers in different views were inspected by fourteen international participants from six countries. Their opinions before and after studying the specimens were collected and analyzed.

Results: The anal sphincter complex is composed of

three separated muscles including the levator ani, the superficial external sphincter and the subcutaneous external sphincter. The levator ani muscle is a single muscle that dose not separate into three muscles (puborectalis, pubococcygeous, iliococcygeous). Regarding the anal sphincter attachments, anteriorly the subcutaneous external sphincter is attached to bulbuscavernosus, the superficial external sphincter is attached to transverse perineii muscle, levator ani is attached to pubic bone and arcustendinous. Posteriorly, all anal sphincter muscles are attached to the coccyx. Pre-test agreement of the above findings was 50.7% and the post-test agreement was 99.49%.

Conclusions: Our description of different anal sphincter anatomy are confirmed by international independent participants. This is the most recent and reliable anal anatomy information that will have a major impact in understanding and approaches to anorectal diseases especially the fistula in ano and defacation problems.

PELVIC EXENTERATION FOR LOCALLY ADVANCED PELVIC TUMOR: AN EXPERIENCE IN 73 PATIENTS AT KING CHULALONGKORN MEMORIAL HOSPITAL

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Background: Pelvic exenteration is usually performed on locally advanced primary and recurrent pelvic tumor. Though, this technique is effective, morbidity and mortality rates are high.

Objective: To evaluate survival time and oncologic outcome in patient undergoing pelvic exenteration.

Materials & Methods: We reviewed patients who underwent pelvic exenteration for locally advanced primary and recurrent pelvic tumor between years 2006 to 2011 at King Chulalongkorn Memorial Hospital.

Results: 73 patients were studied which included 56 Colorectal cancer (CRC) and 17 Non-CRC. The mean operative time was 10 hr. (6-24 hr.). Average blood loss was 2700 ml (300-20,000 ml). Overall complication rate was 56.2%. Most common early complication was pelvic collection and wound infection. Late complication was small bowel obstruction. No mortality was observed in perioperative and 30-day postoperative periods. The average length of hospital stay was 34 days (9-179 days). Oncological outcome was 90.4%R0 resection, 9.6% R1resection and no R2 resection. After median follow-up of 22 month, 63% of patients were alive with no evidence of disease. Mean survival time was 51.7 months.

Conclusion: Pelvic exenteration is feasible and can provide long term survival even with quite high rate of morbidity.

ILEOSTOMY CLOSURE BEFORE PERFORMING LAPAROSCOPIC COLECTOMY

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Background: In the case of obstructing cancer of the left side colon, colonic decompression provides time for resuscitation, adequate staging, bowel preparation and safer minimally invasive elective resection. Without endoscopic colonic stent, ileostomy should be the alternative way for bowel decompression before definite surgery.

Objectives: To report our successful decompressive ileostomy (DI) and then ileostomy closure at the time of laparoscopic colectomy in obstructing cancer of the left colon.

Materials & Methods: A 58 year-old man came with colonic obstruction. He had history of open-heart surgery for valvular heart disease 2 years ago and on Warfarin (5) 0.5×1 and Aspirin (81) 2×1 due to high risk of thromboembolism. Contrast enhanced MDCT of abdomen showed marked dilatation of colon and small bowel and circumferential wall thickening of sigmoid colon was detected. Colonoscopy confirmed the tumor at 50 cm. from anal verge. After cardiology consultation for preoperative evaluation, loop ileostomy was performed under GA on the following day. The patient improved sastistactorily after ileostomy. Ileostomy closure and laparoscopic sigmoidectomy were carried out on day 7 after ileostomy.

Results: The patient was doing well after the definitive operation. Jackson-Pratt drain was removed on day 4 and the patient was discharged from the hospital on day 5 postoperatively.

Conclusions: Decompressive ileostomy could be alternative procedure or another bridging to elective minimal-invasive surgery when endoscopic colonic stent placement failed or stenting was unavailable. The benefit outweighed the risk of two anastomosis in one operation, this two-stage procedure should be the option.

IMPACT OF BALLOON OCCLUSION IN LEFT SIDE COLON ON THE PRESENCE OF ANASTOMOSIS LEAKAGE AFTER LAPAROSCOPIC SURGERY FOR LEFT SIDE COLORECTAL CANCER

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Purpose: One of dilemma complication after

colorectal surgery is anastomotic leakage. This study presents the safety and feasibility of the more simple techniques than diverting colostomy or ileostomy for anastomosis protection. This simple technique is temporary balloon occlusion in left colon above anastomosis after laparoscopic surgery for left side colorectal cancer. This study showed the efficacy of this method.

Methodology: Between February 2010 and June 2012, a total of 148 patients underwent laparoscopic surgery for colorectal cancer. Leakage occurred in 4 cases of left side colorectal cancer cases. We developed the technique of 3 daysballoon catheter occlusion placed in left side colon above anastomosis. The outcomes are herein presented.

Result: For left side colorectal cancer 129 cases, exclusion of 21 APR cases, anastomosis done for 108 cases. Anastomotic leakage occurred in 4 cases after 56 anastomosis of laparoscopic surgery which 3 cases occurred in rectal cancer cases, another one in sigmoid cancer. After placing large balloon catheter in left side colon above anastomotic site for 3 days of colonic lumen occlusion but let content drain through catheter's lumen, no anastomosis leakage occurred in the last 52 anastomosis.

Conclusion: We concluded that the 3-day balloon occlusion in left colon is safe and useful method for prevention of anastomotic leakage.

THREE-PORTS LAPAROSCOPIC SURGERY FOR COLORECTAL CANCER; EXPERIENCE IN NATIONAL CANCER INSTITUTE

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Purpose: Single Incision Laparoscopic Surgery (SILS) is one of technical innovations aim for better cosmesis in comparison with conventional laparoscopic surgery. But the technical challenges of performing SILS and the uncertainty of the oncologic quality have hindered the growth of SILS for colorectal cancer. This study present the safety and feasibility of the more simple techniques, Three-ports laparoscopic surgery, is minimally invasive as SILS because composed of 1 large incision at umbilicus about 4-5cm according to size of specimen to be removed and another 2 small incision for working ports but quality of oncologic control remains as conventional laparoscopic surgery for colorectal cancer.

Methodology: Between February 2010 and June 2012, a total of 148 patients underwent laparoscopic surgery for colorectal cancer. Conventional laparoscopic surgery which using 5 ports were performed for only first few months of experience in about 30 cases. Three-port laparoscopic surgery was performed routinely thereafter. Morbidity and oncologic results were analyzed.

Result: Postoperative complications include anastomotic leakage in 4 cases, postoperative gut obstruction 3 cases, surgical site infection 4 cases, temporary bladder dysfunction 7 cases, ureteric injury 1 case. Overall morbidity was 12.8%, without operative mortality. No loco egional recurrence occurs after follow-up.

Conclusion: There was no difference in the occurrence of postoperative complication between three-port surgery and conventional laparoscopic surgery for colorectal cancer and acceptable oncologic result. Three-port laparoscopic surgery is safe and feasible procedure for colorectal cancer.

TREATMENT OF OBSTRUCTING LEFT COLONIC CANCER WITHOUT DIVERTING COLOSTOMY; EXPERIENCE IN NATIONAL CANCER INSTITUTE

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Purpose: Acute on top chronic colonic obstruction is the well-known complication of colorectal cancer. For right side colonic cancer, the resection of distal ileum along with right colonic mass and anastomosis between small bowel and colon is considered safer than anastomosis between colon and colon as in obstructing left colonic cancer in term of the risk of anastomosis leakage. Diverting colostomy usually done after left colonic resection for treatment of obstructing left side colorectal cancer. This report present alternative method for avoidance colostomy in treatment of Obstructing Left Colonic Cancer.

Methods: 2 case presentations in details of treatment aim to point out factors regarding proximal bowel decompression and anastomotic protection. For open surgical case, we can use intraoperative manual proximal bowel decompression; for laparoscopic surgical case, we have to install colonic stent for decompression proximal bowel few days before. Anastomotic protection in both open and laparoscopic surgery is the same by using large balloon catheter in left colon.

Results: No anastomosis leakage occurred in both cases. Both patients uneventful recover from difference types of definite surgery.

Conclusion: The efficacy of colonic stent placement for converting obstructing colonic cancer to elective colonic cancer case for laparoscopic surgery is dramatic but more expensive than conventional open surgical case. We also can avoid colostomy in conventional open surgical case of obstructing colorectal cancer by meticulous manual proximal bowel decompression and anastomotic protection by placing large balloon catheter in left colon.

LAPAROSCOPIC LOW ANTERIOR RESECTION WITH TRANSVAGINAL SPECIMEN EXTRACTION (NOSE)

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Introduction: Laparoscopic low anterior resection is an accepted alternative treatment for early rectal carcinoma. Current techniques require abdominal incision for specimen extraction. This may lessen the advantage of the minimally invasive surgery. Natural orifice specimen extraction (NOSE) produced greater benefits of the laparoscopic surgery. Transvaginal specimen extraction seems to be an alternative option for woman.

Method: A 52-year old woman presented with mucous bloody diarrhea. On digital rectal examination a rectal mass was found. The endoscopic finding showed mass in middle rectum, 10 cm from anal verge. The patient was placed in modified lithotomy position. Laparoscopic low anterior resection was performed with transvaginal specimen extraction. Coloanal anastomosis was done with circular stapler No. 29 mm.

Results: The laparoscopic low anterior resection with transvaginal removal of specimen (NOSE) was successful. Laparoscopic time was 210 minutes. Total blood loss was 100 ml. The patient returned to oral diet within 3 days after surgery and was discharged on the 6th day. Pathological report was adenocarcinoma of rectum, tumor invasion into muscular layer, and free surgical margin. There was no lymph node involvement (0/12nodes)

Conclusion: Laparoscopic low anterior resection with transvaginal removal of specimen (NOSE) is feasible for early rectal cancer. Further evaluation of this procedure is warranted.

NOVEL TECHNIQUE OF MUCOSECTOMIZED RECTOSIGMOID FLAP FOR RECONSTRUCTION AFTER ENBLOC TOTAL PELVIC EXENTERATION WITH SACRECTOMY FOR RECURRENT BASAL CELL CARCINOMA OF PROSTATE GLAND

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Introduction: Immediate reconstruction using myocutaneous flap after total pelvic exenteration has been widely accepted. However, complications of the donor sites and the flaps have been reported. The aim of this VDO is to show the novel flap technique using a mucosectomized rectosigmoid flap for coverage of pelvic dead space and prevention of sacral herniation.

Method: A 46 years old man with recurrent basal cell carcinoma of prostate after radical prostatectomy underwent unbloc total pelvic exenteration with S4 sacrectomy using mucosectomized rectosigmoid flap for reconstruction. The reconstructive technique included harvesting the recto-sigmoid segment with preservation of superior rectal vessels, opening rectosigmoid flap at antemesenteric side then submucosal injection using sterile water 1000 ml diluted with adrenalin (1:1000) 1 ml was applied before mucosectomy flap. The flap was sutured to the pelvic sidewall and the pubic rami. The mucosectomized surface faced toward the pelvic defect. A suction drain was placed in the pelvis. End colostomy and ileal conduit were then performed.

Results: Operative time was 11 hours with 800 ml blood loss. There were no perioperative complications and patient discharged on day 14. Final pathologic report free margin. There were no recurrent nor incisional and perineal hernias developed during 18 months follow-up.

Conclusion: Mucosectomized rectosigmoid flap can be an alternative options for reconstruction after radical pelvic exenteration.

A NOVEL TECHNIQUE FOR RECTOCELE REPAIR

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Background: Transvaginal approach shows the highest success rate (79-87%) of rectocele repair. And some studies, transvaginal mesh repair seems to show a very good result of success rate (94%) but with high morbidity rate such as mesh erosion, dyspareunia and pelvic abscess. Darn repair is the alternative of inguinal hernia repair. Some studies show the benefit above mesh repair in the term of lower rate of graft rejection, lower postoperative complication, lower recurrent rate and less expensive. So this study, Darn technique was used for rectocele repair to get more success rate with lower or without complication.

Objective: To show the novel technique of rectocele repair by using Darn repair technique in the VDO presentation format.

Material and Method: Four cases of rectocele at Chulalongkorn Hospital, who match inclusion criteria: difficult defecation, digital assisted defecation, retaining contrast in post-defecation phase of defecogram and no active sexual life, were carefully selected for Darn technique rectocele repair. After submucosal layer was dissected from the rectovaginal (RV) septum, the modified Darn technique rectocele repair was performed by a running suture between lateral defect of RV septum using Prolene 1-0 suture.

Results: The mean follow-up of 4 cases of the Darn

technique rectocele repair was 7 months. No graft rejection, wound infection or recurrent rectocele (from defecogram) was found. No digital assisted or laxative agent was used.

Conclusion: Darn rectocele repair seems to show a good result in the term of success rate (100%) with no complication. But this study needs more follow-up period and further study.

SPHINX FAST TRACT APPENDICITIS (SEAMLESS PROVINCIAL HEALTH INNOVENTION AND EXCELLENCE IN APPENDICITIS)

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Appendicitis patient need accuracy diagnosis and emergency surgical treatment. This disease occur both in adults and pediatrics population. In 2010, There were 1,639 patients with diagnosis appendicitis in Udonthani Regional Hospital. These patients were referred from district hospital average 137 per month with inaccuracy diagnostic rate 39.1% (Udonthani Statistical Data Reported in 2010). To solve the problem, The pilot project "Fast Track Appendicitis" with "Modified Alvarado Score" was implemented in both Udonthani Hospital and all District Hospitals in this province. The outcome of inaccuracy diagnosis decrease from 39.1 5 to 12.2 %. Patients received surgical treatment after admission with in 8 hours. Using team approach " Collaboration between Regional and District Hospital" benefit both side in term of increase accuracy in diagnosis, decrease repetitive in laboratory test, decrease waiting time in emergency department, decrease infection rate. The appropriate utilization of resources in the processes of caring, and referral system led to continuity in caring.

WT1 EXPRESSION AS AN INDEPENDENT MARKER OF POOR PROGNOSIS IN COLORECTAL CANCERS

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Introduction: Colorectal cancer (CRC) is the third most common cancer and a leading cause of cancer-related deaths worldwide. Biological markers such as DNA mismatch repair genes, DCC, NM23-H1, CTNNB1 and K-ras have been verified to predict disease relapse. Although application of these molecular markers in practice remains limited because of variabilities in their reproducibility and independence from other major prognosticators. Wilms' tumor 1 gene (WT1), located on chromosome 11p13, encodes a zinc-finger transcription factor that regulates the expression of a number of growth factors and their receptors. Although the gene was originally recognized as a tumor suppressor because of loss-of-function mutations found in pediatric Wilms' tumor, other evidence has demonstrated an oncogenic role of WT1 in various human neoplasms. Although WT1 does not express in the normal colonic epithelium, overexpression of WT1 in CRC cell lines was initially described by using immunohistochemical studies. The same group reported expression of WT1 protein in 90% of colorectal adenocarcinoma studied. The significance of WT1 expression on surgical outcomes in CRCs has never been evaluated.

Objective: In this study, we aimed to investigate the prognostic role of WT1 in colorectal cancers (CRCs).

Method: Archival tissue samples from 157 CRC cases who underwent curative surgery in our institute from February 1999 to May 2004 were subjected to WT1 expression studies using an immunohistochemistry technique. Number of positive staining per 500 tumor cells and staining intensities were analyzed against overall survival. Of 157 CRCs, 83 were colonic and 74 were rectal cancers.

Results: Mean follow-up period was 116 months (77-145 months). Five-year and seven year overall survival rates were 60.9% and 52.8%, respectively. WT1 immunostaining was positive in 143 cases (91%). The median number of positive cells was 120 (range 0-420). Univariate analysis by Log-rank test showed that AJCC stage, tumor site (rectal cancer), number of positive cells > 120 and high staining intensity (score ++/+++) were significantly associated with poorer survival (p-value < 0.01). Five-year survival rates in cases with positivity number of < 120 cells and > 120 cells were 72.2% and 49.4%, respectively. Five-year survival in cases with staining intensity of ++ or more was 45.3%, compared with 69% in cases with intensity of less than ++. Multivariate regression analysis demonstrated that the staining intensity, high tumor stage and rectal site were independent factors indicating poorer survival.

Conclusion: Our findings indicate that WT1 expression is a marker of poor prognosis in CRCs, independent of AJCC staging.

A RENDOMIZED CONTROLLED TRIAL COMPARING BETWEEN COLONIC IRRIGATION AND ORAL ANTIBIOTICS ADMINISTRATION VERSUS 4% FORMALIN APPLICATION FOR TREATMENT OF HEMORRHAGIC RADIATION PROCTITIS

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Background: Several treatments have been described

for hemorrhagic radiation proctitis (HRP). The treatment outcomes are variable. Colonic irrigation and oral antibiotics for HRP has been recently reported to be a novel and promising therapeutic approach. However, comparative study of this treatment has never been investigated.

Method: A randomized controlled trial of colonic irrigation and oral antibiotics (irrigation group) or 4% formalin application (formalin group) was undertaken for fifty patients with HRP after radiotherapy for pelvic malignancies. There were thirty four cervical cancers, eight uterine cancers, five prostatic cancers, two vaginal cancers, and one tumor of unknown origin. For individuals allocated in the irrigation group, daily self-administered colonic irrigation with 1 liter of tap water and a 1-week period of oral antibiotics (ciprofloxacin and metronidazole) were prescribed. For individuals allocated in the formalin group, 4% formalin application for 3 minutes was performed. The outcomes were evaluated at 8 weeks after the initiation of treatment.

Results: There was a significant improvement in rectal bleeding and bowel frequency in both treatment groups, but significant improvement in urgency, diarrhea, and tenesmus was demonstrated only in the irrigation group. The comparative study between two treatments revealed greater improvement in rectal bleeding, urgency, and diarrhea in the irrigation group. Twenty of 24 patients in the irrigation group and 10 of 23 patients in the formalin group were satisfied with the treatment.

Conclusion: The colonic irrigation and oral antibiotics appears to be more effective than 4% formalin application for HRP treatment and achieves higher patients satisfaction.

MEASUREMENTS OF SMALL BOWEL LENGTH IN THAI PATIENTS

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Objective: Knowing the length of small bowel (SB) prior to an intraabdominal operation may be of help, especially in patients requiring SB resection or those having had a history of SB removal or SB diseases. Unlike the large bowel, the preoperative assessment of SB length is very difficult and somehow unreliable. This study aimed to evaluate the length of small intestine in Thai patients who underwent laparotomy - in which the outcomes may be used as a reference in the future.

Method: This study included Thai adults undergoing laparotomy at the Division of General Surgery, Faculty of Medicine Siriraj Hospital from August 2011 to May 2012. Patients having peritonitis or gut obstruction, patients with previous laparotomy, patients with intraabdominal adhesion or gross abnormality of SB, and emergency operation were excluded from this study. During a laparotomy, SB length was measured using an umbilical cord tape, from duodeno-jejunal junction to ileo-caecal valve.

Results: Eighty patients were enrolled during the study period. However, according to exclusion criteria, only 48 patients were eligible for study. This study included 27 men and 21 women, with an average age of 60 years (range 28-88). The SB length is showed in Table A. There was no association between SB length and age, body weight, height, or body mass index ($P>0.01$). But in this study male adults seemed to have longer SB than female ($P<0.001$).

Conclusion: Based on this study, the total length of small bowel in Thai patients was approximately 430 cm. Male adults appeared to have longer SB than female adults (470 cm vs 380 cm). Jejunum was accounted for about one-third of the total SB length.

Table A: Summary of small bowel length (cm)

	Jejunum		Ileum		Total small bowel	
	Mean ± S.D.	Range	Mean ± S.D	Range	Mean ± S.D.	Range
Male	179 ± 78	77-400	288 ± 133	105-592	468 ± 105	322-745
Female	106 ± 38	49-182	274 ± 86	76-397	376 ± 81	169-476
Both	147 ± 73	49-400	282 ± 114	76-592	428 ± 105	169-745

FACTORS IMPACTING INTRA-ABDOMINAL PRESSURE IN THAI SURGICAL PATIENTS

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Background: The effects of increased intra-abdominal pressure (IAP) on surgical patients have been well documented. However, there have been only few studies that determined factors impacting postoperative intra-abdominal pressure, none of which provided reference values for Thai patients. The purposes of this study were to (1) document the reference values of intra-abdominal pressure in Thai surgical patients, and (2) determine factors that influence postoperative intra-abdominal pressure in this group of patients.

Methods: IAPs were measured in 193 patients who underwent general surgical operations which required them to have urinary catheter inserted. The measurement was obtained via urinary bladder using a standard technique. IAP was measured within 24 hours after the operation. In addition to IAP, we also collected data on age, gender,

height, weight, previous surgery, comorbidities, type of surgery, emergence of operation, CBC and coagulogram (if done), type of anesthesia, amount and type of fluid given during operative period, presence of intraoperative hypotension, and operative time.

Results: IAP of Thai surgical patients ranged from 0.5 to 23.0 cmH2O with an average of 8.04 cmH2O and a standard deviation of 3.98 cmH2O. In the univariate analysis there were ten factors that correlated with postoperative intra-abdominal pressure: weight ($r = 0.15$, $p = 0.03$), prothrombin time ($r = 0.20$, $p = 0.02$), Hematocrit ($r = -0.20$, $p = 0.005$), the amount of crystalloid fluid given ($r = -0.31$, $p < 0.005$), the amount of blood component given ($r = 0.41$, $p < 0.005$), blood loss ($r = 0.32$, $p < 0.005$), operative time ($r = 0.18$, $p = 0.01$), emergence of the operation ($t = -1.99$, $p = 0.049$), the presence of intraoperative hypotension ($t = -2.40$, $p = 0.017$), and the type of operation ($F = 3.24$, $p = 0.001$). From the total of 10 predictors included in the multiple regression analysis, only four variables revealed potentially significant predictive power (weight, blood component given, crystalloid fluid given, and emergence of the operation). The multiple regression using only these four variables to predict IAP could provide significant prediction, explaining 25% of variance in IAP, $F(4,186) = 15.56$, $p < 0.0001$.

Conclusion: Weight, blood component given, crystalloid fluid given, and emergence of the operation are four independent factors that influence postoperative IAP. An overweight patient who underwent an emergency operation requiring a large amount of intravenous crystalloid solution and blood transfusion in the operating room is at risk for developing postoperative intraabdominal hypertension. Such patient should need close monitoring of postoperative IAP.

THE INCIDENCE OF LYMPH NODE INVOLVEMENT OF RECTAL CANCER THAT LOCATED ABOVE AND BELOW THE PERITONEAL REFLECTION

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Background: There have long been studies on lymph node metastasis in cancer patients, and rectal cancer patients are no exception. Nevertheless, there may not be sufficient data to predict the prognosis and treatment results of rectal cancer even though they can be useful in making a decision to choose a treatment method for the patient. From those studies, it can be seen that the lymph node metastatic pattern for rectal cancer is uncertain and neither the classification of the cancer sites nor the standards of classification is clear enough to refer to in practice. This study is proposed to investigate the lymph node metastasis for rectal cancer according to the cancer site using TNM-classification in order to apply the findings in prediction of the prognosis and decision-making in choosing a treatment method.

Method: 601 Rectal cancer patients who have had a radical surgery and whose pathological tests at Chulalongkorn Hospital were carried out between May, 2000 and November, 2010 without the history of preoperative chemoradiation treatment. Tumor location was categorized as upper, middle and lower rectum followed by TNM classification. All medical records were reviewed to collect demographic data, clinicopathologic data and treatment outcome. All of the pathological report were approved by two specialist GI-pathologist. The patients whose pathological finding show positive margin or all data are not available as needed for this study will be excluded from the study. The categorical and continuous variables were analyzed using chi-squared test with Regression Binary Logistic test, respectively. P value of 0.05 was considered as significant.

Result: The rectal cancer patients were included in 601 cases, of which male were 257 and female were 334 and the mean age was 66.4 ± 12.7 years old. The tumor location was categorized as upper, middle and lower rectum followed by TNM classification as 51%, 19% and 30% respectively. From this study, it was found that the risk of lymphnode metastasis below lower peritoneal reflection was less than above peritoneal reflection but was not significantly different ($OR = 0.967$, $P = 0.854$). The factor that had effect to risk of lymph node metastasis significantly in this study were tumor with T3 and T4 staging with ulcerative and infiltrative type tumor configuration ($OR = 1.604$ and 2.467 ($P<0.05$) accordingly). And the poor prognostic pathologic parameter the angio invasion and lymphatic invasion had significantly effect to the risk of lymph node metastasis in this study.

Conclusion: Unlike previous report, the level of tumor did not affect the risk of lymph node metastasis. Instead, the angioinvasion and lymphatic invasion predict risk of lymph node metastasis in rectal cancer patients.

LOCAL EXCISION OF RECTAL CANCER: 6-YEAR EXPERIENCE FROM SIRIRAJ HOSPITAL

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Background: In selected patients, local excision of

rectal cancer could be an alternative to radical surgery, such as abdominoperineal resection (APR) or anterior resection. Local excision is associated with low morbidity and good functional results. However, there is no reporting result of such an operation in Thai patients. Therefore, this study aimed to determine the clinical outcomes of local excision for rectal cancer from a University Hospital in Thailand.

Methods: We performed a retrospective chart review of 22 consecutive patients who underwent local excision for rectal cancer from 2005 to 2010 inclusive at the Department of Surgery, Faculty of Medicine Siriraj hospital. Data were collected from patients' medical records, including demographic and clinical characteristics, pathological report and surgical outcomes.

Results: This study included 10 males and 12 females, with a median age of 73 years (range 41-84). Pre-operative staging, either with TRUS or with CT scan, was performed in 18 patients (81%). Nineteen patients underwent transanal excision and 3 patients had transacral excision. This study had a complete follow up rate of 95%, with a median follow up period of 22 months (range 2-55). According to pathological reports, T1 lesion was found in 12 cases, T2 lesion in 8 cases and T3 lesion in 2 cases. Median operative time was 45 minutes and median hospital stay was 5 days. Only 1 patients (4.5%) had major postoperative complication; faecal fistula in an 66-y/o female undergoing transacral excision. There was no 30-day postoperative mortality. In T1 and T2 lesions (n=20), 5 cases had positive, or close (<1 mm), or unclear margin. Of these 5 patients, one underwent APR, one had repeated transanal excision, another receive chemotherapy, another (unclear margin) denied further treatment and the other had loss follow-up. Local recurrence was seen in 3 patients; one with T2 lesion with unclear margin, and two with T3 lesion. All of these patients had salvage APR procedure. No local recurrence was found in patients with free surgical margin.

Conclusions: Local excision is a feasible and acceptable alternative to radical resection in only selected early rectal cancer.

PREVALENCE OF K-RAS GENE MUTATIONS IN COLORECTAL CANCER AT SIRIRAJ HOSPITAL

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Background: Colorectal cancer is the third most common cancer in Thai population. Multiple tumor-associated mutation have been described and one of several oncogenes "K-ras" which activates GTPase activity and drives RAF/MAPK signaling cascade to promote colorectal cancer is related to anti-EGFR therapy. From previous studies, among wild-type K-ras colorectal cancer patients who had not responded to advanced chemotherapy, monotherapy with cetuximab improved overall survival and progression-free survival whereas patients with mutated K-ras gene did not benefit from cetuximab as compared to wild-type group. Incidence of K-ras mutation was reported from China and western country, RASCAL II study revealed that incidence of K-ras mutation was approximately 35 %. Objectives: To estimate the prevalence of K-ras mutation in order to determine the role of monotherapy in Thai colorectal patients and to investigate the relationship of K-ras mutation to other pathophysiologic factors.

Method: From 106 patients, fresh surgical specimens were collected and analyzed by real time-specific PCR. Disease-related pathophysiologic factors such as age, BMI, size or site of tumor, tumor/node/metastasis staging, carcinoembyonic antigen were also collected. Data of wild type and mutant groups were compared.

Results: The prevalence of mutant K-ras in this study was about 31 of 106 colorectal patients (approximately 29 %) including 25 of codon 12 mutation and 6 of codon 13 mutation. Most common mutations were 12 Val and 12 Asp (11 and 10 cases, respectively). The demographic data such as age, body mass index, serum albumin level and carcinoembryonic antigen level were similar in both wild-type and mutant groups. By pathologic staging, the mutant K-ras group was varied in all stages as similar to the normal K-ras group. Of 18 advanced stage of colorectal cancer, there were only 4 (22%) patients with mutant K-ras. No difference of the tumor location was found in both groups. Most cases of normal and mutant K-ras specimens revealed adenocarcinoma with moderate differentiation but, in the mutant K-ras group, there was higher angiolymphatic and perineural invasions when compared to wild-type K-ras group.

Conclusions: The prevalence of mutant K-ras in thai population is approximately 29 % as nearly similar to previous studies from other country. Although, K-ras mutation is not related to the pathological staging, in advanced colorectal cancer, patients who are indicated for monotherapy with cetuximab should be investigated for K-ras mutation as benefit for predicting the outcome of treatment. There is a trend of angiolymphatic and perineural invasions in patients with K-ras mutations, however, no other remarkable pathophysiologic factors were demonstrated.

APPENDICITIS IN PATIENTS WITH HIV SEROPOSITIVE IN SRINAGARIND HOSPITAL

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Background: Appendicitis is one of the most common disease in surgery, diagnosed from history, physical examination and imaging, treated with appendectomy or antibiotics therapy, but those were the management in the immunocompetent host, In HIV sero-positive patients, they might have differences in clinical features, treatment and outcome from normal population. There have been reports of appendicitis in patients with HIV sero-positive in different clinical features from previous studies.

Objectives: To study treatment outcome of appendicitis in patients with HIV sero-positive in Srinagarind Hospital. To assess the clinical features, laboratory test, pathology, length of hospital stay, morbidity and mortality of HIV sero-positive patients with appendicitis.

Materials & Methods: Medical records of all 38 patients admitted with HIV sero-positive and appendicitis with or without appendectomy at Srinagarind Hospital from January 1997 to December 2009 were analyzed retrospectively. Seventeen patients were excluded because of dismiss of the inclusion criteria.

Results: There were 11 males and 10 females with mean age of 28.9 years with low co-morbidity. The most symptoms included RLQ pain 95%, nausea and vomiting 76.2%, fever 66.7%, shifting of pain 66.7%. The most signs included localized tenderness 100%, rebound tenderness 85.7%, tender and warm on digital rectal examination 90.5%. Abdominal ultrasonography was done in 38.1%. There were patients with body temperature > 38.5 ˚C 19% (acute gangrenous appendicitis 9.5%), anemia 61.9%, WBC count 10,000-18,000 /mm3 47.6%, >18.000/mm3 4.8%, PMN >75%=38%, known HIV infection 52.4%, AIDS 38.1%. The most previous or current infections were cryptococcal meningitis 23.8%, TB 19%. Combined drugs were ARV 28.6%. Preoperative diagnoses were simple appendicitis 66.7%, complicated appendicitis 23.8%, appendiceal abscess 9.5%. The managements were surgery 81%, conservative treatment 19% (failed 4.8%: complicated appendicitis). The operative findings were simple appendicitis 33.3%, complicated appendicitis 38.1%, appendiceal abscess 9.5%. Pathologic findings were simple appendicitis 38.1%, complicated appendicitis 33.3%. Total length of hospital stay was 5.7 days, conservative treatment 8.25 days, surgery 5.1 days. There were morbidity 9.5% (wound complication 4.8%, intra-abdominal collection 4.8%) with no mortality. There were readmission 9.5% (acute appendicitis 4.8% and intra-abdominal collection 4.8%)

Conclusions: The patients who had HIV sero-positive, including known cases of HIV infection either at first diagnosis or had full blown diseases, if they were diagnosed appendicitis, they could be treated as same as other immunocompetent patients. There were no increase in morbidity and mortality.

SURVIVAL WAS NOT COMPROMISED IN OBSTRUCTED COLORECTAL CANCER PATIENTS WHO WERE TREATED BY COLONIC STENT IN EMERGENCY SETTING

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Colonic obstruction is one of the most common presentation in the patient with left sided colon cancer. Colonic stent was proved to be one of the best option to treat this emergency situation. The ostomy was not performed in most cases but there were some doubts about the long term result in this group of the patients. We performed the retrospective review data of the patients who presented with left sided malignant colonic obstruction and compared the long term survival with the standard report. From November 2008 to June 2012 there were 58 patients underwent the colonic stent insertion for treatment of left sided malignant colonic obstruction. The demographic and operative data were reviewed. Most of the patients were of stage IV (53%, 31 patients), the others were stage III in 19 patients (33%) and stage II in 8 patients (14%). Median follow-up was 25 months (range from 0.5 - 44.6 months). The survival was analyzed and the results by stage are comparable to the standard report of cancer registry data. The long term result of the obstructed colorectal cancer patients who were treated by colonic stent were comparable to the other options of treatment in the same stage of tumor. We recommended the colonic stent as an option for the colorectal cancer obstruction.

A CASE REPORT; ENDOSCOPIC SUBMUCOSAL DISSECTION (ESD) FOLLOW BY LAPAROSCOPIC ANTERIOR RESECTION IN COMBINE LARGE RECTAL POLYP AND COLON CANCER, THE FIRST CASE IN RAMATHIBODI HOSPITAL, BANGKOK, THAILAND

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Large superficial mucosal lesion in colon and rectum is the one of most common problems seen in clinical practice. In the past, conventional endoscopic mucosal resection (EMR) has been used for this lesion. However, the disadvantages of this technique are difficulty in resection margin evaluation and high recurrence rate. Recently, endoscopic submucosal dissection (ESD) is an available option since it developed for en bloc resection of large superficial mucosal tumors. Also, laparoscopic approach for colon cancer, when was used together with ESD in large mucosal rectal lesion are not only less invasive procedure but also save unnecessary resection will avoid rectal resection which result in less morbidity and good functional outcome. Herein we present a case of 73 years old Thai male from private hospital with bleeding per rectum and rectal mass found by per-rectal examination. Colonoscopy was performed and found two lesions; the first was large sessile polyp 2.5 cm in diameter at 7 cm from anal verge (rectal lesion) and the second lesion was circumferential ulcerative mass at 22 cm from anal verge (sigmoid lesion). Biopsy of rectal lesion revealed villous adenoma. The sigmoid lesion was well differentiated adenocarcinoma. Complete metastasis work up were performed and revealed no distant metastasis. He underwent surgery via endoscopic submucosal dissection using Insulated tip (IT) knife for the villous adenoma of rectum. The operative time was 210 minutes with 15 ml of blood loss. Two day later, the second operation was performed by laparoscopic anterior resection with operative time of 240 minutes and 150 ml of blood loss. His postoperative period was uneventful. In conclusion, endoscopic submucosal resection is an en bloc resection for large superficial mucosal lesion that less invasive than surgical resection and can be performed safely with laparoscopic colon surgery in selected case.

ENDOCRINE SURGERY

PERSONAL PERSPECTIVES ON A CAREER IN THYROID SURGERY

John C Watkinson
London, UK

This talk reflects on my own personal perspectives on a career in thyroid surgery over the last 25 years. I will discuss both the history of thyroid surgery together with its investigation and management, as well as the extent of surgery. I will make specific comments on training, audit, guidelines, as well as the role of research in the multi-disciplinary setting.

THE MANAGEMENT OF THE SOLITARY THYROID NODULE

John C Watkinson
London, UK

Thyroid disease is common, thyroid cancer is uncommon. Thyroid cancers commonly present as a solitary thyroid nodule in a euthyroid patient, when the incidence of malignancy is between 5% and 8%. Contrary to previous beliefs, malignancy rates in both dominant and significant nodules within a multinodular goitre, also approach this figure depending on which series you read. Deciding on which patients would benefit from surgery is based on diagnostic algorithms in line with best practice guidelines. All patients require blood tests to include thyroid function, serum calcium and antibody status and then further investigation with fine needle aspiration cytology and usually ultrasound as well. Treatment strategy of the STN based on the outcomes of these algorithms will be presented, along with the discussion of some novel accompanying investigation strategies.

MINIMAL INVASIVE THYROID SURGERY : CURRENT STATUS AND FUTURE DIRECTION

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Introduction: After the first published of endoscopic subtotal parathyroidectomy in 1996, the new era of endoscopic neck surgery was opened. Numbers of approach was introduced to the surgeons by various institutes around the world. In brief, there are mainly two ways to access to neck, cervical and extra-cervical. While the techniques that used to maintain the surgical space were carbon dioxide gas insufflations and gasless technique. Many recent papers reported the robotic usages.

Current Status and Future Direction: Both cervical and extra-cervical approaches are accepted world wide. The technique of minimal invasive thyroid surgery (MITS) were very popular in Asian countries. Also, most of axillary approach papers came from Asian surgeons. In the western countries, the preferred techniques were Minimally Invasive Video-Assisted Thyroid (MIVAT) Surgery. There are various ways to performed the MITS. Some groups used “Pure”

axillary approach that's mean all of the incisions were in the axillary area. While another surgeons used "Pure" anterior chest wall approach (may be from circum-areolar area of nipple or chest wall itself). Moreover, there also had çCombineé incisions from axilla and anterior chest wall and nowadays with the "single incision" approach from both axilla or circum-areolar area were reported. Our hospital was started the endoscopic thyroidectomy via çpureé axillary approach with carbon dioxide gas insufflations since 2001. More than 670 consecutive cases was done. Many reported demonstrated that the MITS in thyroid malignancy were feasible and safe not only for the thyroid gland but also for the neck lymph node dissections. Recently, many robotic thyroidectomy papers came from South Korea. There usage now may be limited in some centers because of high cost and the real benefit from this approach should be shown clearly in the future study.

Conclusions: What ever the instruments or techniques, the surgeons himself are the most important part of the operation. Surgeons should be learned until he familiar and developed his own skills and technique. Finally, every surgeons should realized the limitations of the technique that they selected and don't hesitate to convert to traditional open surgery for patient's safety.

SINGLE INCISION TRANSAXILLARY APPROACH ENDOSCOPIC THYROIDECTOMY

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Introduction: Minimally invasive surgery has become increasingly accepted over the past decade including thyroid surgery. Various endoscopic thyroidectomy techniques have been developed to improve cosmetic results. More recently, singleport access surgery has emerged as a less-invasive alternative to conventional laparoscopic surgery due to reduction of surgical scars. We report our initial experience technique and outcomes for single incision transaxillary approach endoscopic thyroidectomy in 11 patients.

Patients and Methods: We performed single incision transaxillary approach endoscopic thyroidectomy in 11 benign thyroid disease patients. All instruments were inserted on the same side of thyroid lesion. The CO_2 insufflation pressure was set to 6 mmHg and dissection mainly using an ultrasonic scalpel. Clinical characteristics and outcomes were reviewed. We analyzed tumor size, operative time, length of hospital stay after operation, blood loss, conversion to open surgery and complication.

Results: All patients were women. The mean age was 37.18 years (range, 24 - 54 years). The mean time of the operation was 162.73 minutes (range, 120 - 270 minutes). The mean size of specimen was 3.18 cm × 2.4 cm × 2.82 cm. The length of hospital stay after operation was 2.09 days (range, 1 -3 days). Recurrent laryngeal nerves were clearly identified in all cases.There was no complication and neither any conversion to open surgery. All patients were pleased with the cosmetic results.

Conclusion: Single incision transaxillary approach endoscopic thyroidectomy appears to be feasible and safe. This technique may provide the best cosmetic result for thyroid surgery.

HEAD AND NECK SURGERY

THE CHANGING FACE OF HEAD AND NECK SERVICES IN THE UNITED KINGDOM

John C Watkinson
London, UK

There have been a number of changes in the United Kingdom over the last 25 years relating to the delivery of cancer care. Major changes were implemented through Calman/Hine in 1995 followed by the NHS Cancer Plan in 2000 and National Cancer Guidance (1999-2004). Side by side a number of guidelines have been written for the head and neck, both from the NHS and various specialty organisations. These will all be discussed, together with comments on the DAHNO and BAETS audits.

LOCAL FLAPS IN HEAD AND NECK SURGERY

John C Watkinson
London, UK

Local flaps are an important part of the armamentarium of any Head & Neck Surgeon. They are at the bottom of the reconstructive ladder, but have a fundamental place in reconstruction with specific advantages and disadvantages. Factors governing their use relate both to the resection and reconstruction, and they work on the basis of the pivot principle, advancement or both. The principles of local flap design with reference to specific head and neck sites will be discussed.

LAPAROSCOPIC TRANSHIATAL ESOPHAGECTOMY WITH TOTAL GASTRIC PULL UP AND TOTAL LARYNGOPHARYNGECTOMY

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Introduction: Total laryngopharyngectomy with esophagectomy is one of the procedure for more advanced-stage hypopharyngeal cancer. Larger defects can be reconstructed with either free-tissue transfer of jejunum or various fasciocutaneous tubes. Gastric pullup techniques may be required to reconstruct the long esophagectomy defects.

Method: A 46-year-old woman presented with dysphagia and odynophagia. The endoscopic finding showed mass involving pyriform sinus and esophagus. The patient was placed in supine position. After total laryngo-pharyngectomy, a laparoscopic esophagectomy was performed with transhiatal dissection and total gastric pullup without pyloroplasty for substitution.

Results: The laparoscopic transhiatal esophagectomy was successfully carried out. Operating time was 210 minutes. Blood loss was 200 ml. The patient returned to oral diet on the fifth post operative day without complication.

Conclusion: Laparoscopic transhiatal esophagectomy can be performed safely with good visualization via transhiatal dissection. Total gastric pull up without pyloroplasty prevented risk of leakage of the suture line in gastric tube reconstruction. Further evaluation of this procedure is warranted.

FIBULAR FREE FLAP IN ORAL AND MAXILLOFACIAL RECONSTRUCTION: EXPERIENCE IN DENTAL HOSPITAL, PRINCE OF SONGKLA UNIVERSITY

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At present, the vascularized bone graft is preferred method in a large defect reconstruction in oral and maxillofacial region because of less bone resorption, independent from tissue bed and possibility of one-stage soft tissue and bone reconstruction. The fibular bone is not only the most commonly used as vascularized bone graft in mandibular reconstruction following benign or malignant jaw tumor ablation, but also in the maxillary reconstruction. This presentation reports case series of vascularized osteomyocutaneous fibular free flap for mandibular and maxillary reconstruction in Dental Hospital, Faculty of Dentistry, Prince of Songkla University, Songkhla, Thailand. The report deals with the early experiences in applications of fibular free flap for reconstruction in various techniques and in a limited facility. The applications for mandibular reconstruction consist of double barrel technique to increase height of fibular bone, subcutaneous tissue augmentation using de-epithelized skin paddle and soleus muscular cuff and using extraorally placed skin paddle for fibular free flap monitoring. For the maxillary reconstruction, fibular osteomyocutaneous free flap was reconstructed secondarily in Class IIa maxillary defect (Brown's classification) and placed skin paddle for intraoral lining. The results of all patients were good with low morbidity of donor site except one case failed from venous thrombosis. Each application will be discussed. The learning experienced matters derived from early development of microvascular surgery at PSU will be summarized.

HEPATOBILIARY AND PANCREATIC SURGERY IMAGE-GUIDED IN HEPATO-BILIARY AND PANCREAS SURGERY: FOCUSED ON AUGMENTED ASIAN INSTITUTE TELESURGERY

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Augmented Reality (AR) is superimposition of virtual-reality reconstruction onto a real patient's images, in real time. This results in the visualization of internal structures through overlying tissues provide a virtual transparency vision of surgical anatomy. This concept reflects what many a surgeon would wish to see applied to surgery. Herein we show several examples applied the AR on patients which treated by Minimally Invasive Surgery in Hepato-biliary and Pancreas Surgery.

ACUTE CHOLECYSTITIS IN CLINICALLY ILL PATIENTS: LAPAROSCOPIC ROLE

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The diagnosis of acute cholecystitis in clinically ill patients especially ICU patients is very important because of high mortality rate. In present day, the management of this situation is decompression and drainage of gallbladder by per cutaneous transhepatic cholecystostomy as a temporary treatment and delay cholecystectomy later. Many reports confirm significantly safety of this maneuver as become a gold standard. However, there is still some debate about other management, for example, laparoscopy technique. There is a fist report about laparoscopy in the

critically ill in 1997. They report 26 ICU patients suspected for abdominal sepsis and performed laparoscopy for diagnosis of cholecystitis. Ten was positive, four had open surgery, four had successfully laparoscopic cholecystectomy and two had tube cholecystostomy. Few reports tried to find out the successful of laparoscopic cholecystectomy in critically ill patient but the result is unclear because of too high risk patients. There is only one randomized controlled, open, parallel, multicenter trial compares between percutaneous cholecystostomy and laparoscopic cholecystectomy in high risk patients (APACHE score 7-14) "The CHOCOLATE trial" but this study is still on progression. When this study finished, the answer could be revealed. About tube cholecystostomy which is used as temporary drainage of gallbladder, in the past decade, there is a debate on open cholecystostomy, laparoscopic cholecystostomy and percutaneous transhepatic cholecystostomy. Percutaneous transhepatic cholecystostomy is clearly superior to open cholecystostomy as its safety and less invasiveness because most of these patients can not tolerated for long major surgery. Laparoscopic cholecystostomy has been attempted for a while but had been abandoned. In conclusion percutaneous cholecystostomy and delayed laparoscopic cholecystectomy still remain the gold standard for critically ill cholecystitis patients.

IATROGENIC BILE DUCT INJURY IN THAILAND

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Bile duct injury (BDI) is uncommon but it's one of the most serious problem for general surgeon. The most common cause of BDI is iatrogenic cause from surgeon during cholecystectomy. Laparoscopic cholecystectomy (LC) is now the gold standard for gallbladder removal, but it's associate with nearly four time higher incidence of BDI than open cholecystectomy (OC) (0.4-0.8% VS 0.1-0.3%). For Thailand, the incidence of BDI is 0.59% (Singapore 0.43%, Saudi Arabia 0.60%) compare with USA is 0.50%. The risk factors for BDI consist of male sex, old age, Asian race, severe cholecystitis, low lying of cystic duct and surgeon's experience. Classification of iatrogenic BDI that usually used by general surgeon is created by Bismuth (1982), Strasberg (1995) and Lau (2007). The treatment of choice for major BDI is open and Roux en Y hepaticojejunostomy as soon as possible, in Thai's series 66.6% of BDI was detected just during the operation and all had good results after correction. End to end anastomosis over T-tube or stent should be considered only in appropriate case because of more occurrence of late stricture. In conclusion, BDI can be minimized by carefully dissection of Calot's triangle, junction of cystic duct-gallbladder and cystic duct-common bile duct, difficult LC should be done by experienced surgeon and if BDI is detected, do not afraid to open and correct it and explain to your patient.

LAPAROSCOPIC DISTAL PANCREATECTOMY WITH PRESERVATION OF SPLEEN IN LARGE PANCREATIC NEUROENDOCRINE TUMOR

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Distal pancreatectomy with preservation of spleen is feasible, particularly for benign lesion. Splenic preservation has the advantage of fewer postoperative complications, shorter length of hospitalization and avoidance of the long-term risk of overwhelming post-splenectomy infection (OPSI) Distal pancreatectomy with splenic preservation can be performed in two technique. The first is dissection of pancreas from splenic vessels by division of small branches from splenic artery and vein which is quite tedious and difficult. The other is resection of splenic artery and vein with pancreas and preserving blood supply to spleen from short gastric and left gastroepiploic vessels which was first described by Warshaw et al. in 1988. Laparoscopic distal pancreatectomy with or without preservation of spleen have been shown to be feasible with the benefit of shorter operative time, hospital stay and less blood loss. This operation can be used in benign diseases of pancreas and non-invasive malignant tumor of pancreas such as neuroendocrine tumor. The technique described by Warshaw can be applied in laparoscopic distal pancreatectomy to make the preservation of spleen easier and faster, especially in large tumor. The purpose of this presentation is to demonstrate our technique of laparoscopic distal pancreatectomy with preservation of spleen in large pancreatic neuroendocrine tumor by employing Warshaw technique. The detailed operation will be shown in the video.

LIVER HANGING MANEUVER AND ANTERIOR APPROACH TECHNIQUE FOR RIGHT HEPATECTOMY

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Introduction: Liver hanging maneuver(LHM) combined with anterior approach technique (AAT) is the most appropriate surgical procedure in case of large hepatocellular carcinoma (HCC). By using addition LHM

to AAT in such case not only decrease haemorrhage and chance of tumor perforate but also save operative time by create a correct plane for parenchymal transection.

Methods: We presented a case of large HCC involving entire right lobe of liver which right hepatectomy was performed by LHM and AAT. Operative procedure started by encircle of right portal pedicle and IVC then followed by create the retrohepatic tunnel without mobilization of tumor. After LHM was done, AAT was used to transect liver parenchyma along the hanging plane. Right portal pedicle and right hepatic vein were secured and transected, respectively, then right lobe of liver was mobilized in the last step.

Results: Operation was done as plan without intra-operative complication. Operative time was 180 minutes and blood loss was 150 ml. Post-operative course was uneventful. Patient was discharged on 7th post-operative day. Pathological report revealed a 20 × 18 × 15 cm well differentiated HCC with free resection margin.

Conclusions: Combination LHM and AAT could be a procedure of choice in case of large HCC.

A CASE OF LARGE INTRADUCTAL PAPILLARY MUCINOUS NEOPLASM OF BILE DUCT MANAGED BY PORTAL VEIN EMBOLIZATION AND RIGHT TRISECTIONECTOMY

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Introduction: Surgical management is the cornerstone of treatment for intraductal papillary mucinous neoplasm of bile duct. In some cases, the large tumor involving multiple segments of liver may cause surgical problem. We reported a case that portal vein embolization can be helpful in this situation.

Methods: A 45 year-old man suffered from abdominal pain for 2 years. His abdominal MRI revealed a large cystic-papillary tumor which involved segment IV, V, VI, VII and VIII of liver. Initially, functional liver volume of the left lateral segment was estimated to be 25%. Right portal vein embolization was done and CT Volumetry in the following 3 weeks reported volume of left lateral segment was increased to 35%.

Results: The right trisectionectomy was performed in this patient. During operation, negative right bile duct margin was reported by frozen section. On section of the liver specimen revealed 17 × 11 × 11 cm cystic mass with numerous papillary projections and mucin containing within. Post-operative course was uneventful. Patient was discharged on 7th post-operative day. Pathological report revealed intraductal papillary mucinous neoplasm of bile duct with invasive component and free resection margin. Conclusions: Hepatectomy is an only one curative procedure for intraductal papillary mucinous neoplasm of bile duct. Portal vein embolization can be an adjunct procedure for management in case of large tumor.

LAPAROSCOPIC SEGMENT VI HEPATECTOMY FOR HEPATOMA

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Background: Laparoscopic hepatectomy is increasingly performed for benign and malignant liver lesions. However, there are only a few reports on laparoscopic segment VI hepatectomy. We report on a successful case of laparoscopic segment VI hepatectomy using our technique.

Patients and Methods: The patient was a 69-year-old male with multiple small cystic mass and a hypodense lesion with early arterial enhancement partial wash out on delayed phase at segment VI liver about 16x19mm, hepatoma is likely. Patient was placed in left lateral decubitus position.Intraoperative ultrasonography was performed to confirm the line of resection. Laparoscopic segment VI hepatectomy with anterior approach using Harmonic® scalpel was performed. Hepatic artery and vein were ligated using Hem-o-lock®. Specimen was extracted from abdomen through Pfannenstiel incision.

Results: The operative time was 135 minutes and the blood loss volume was 200 mL. The patient was discharged at five days post-surgery. There were no complications, including hemorrhage and bile leakage.

Conclusion: The results of this case study provide evidence that laparoscopic segment VI hepatectomy is feasible and safe procedure.

TOTAL LAPAROSCOPIC RIGHT HEPATECTOMY FOR LARGE HEPATOMA USING THE GLISSONIAN PEDICLE CONTROL WITH ANTERIOR APPROACH

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Background: Although laparoscopic liver resection has been widely adopted, performing a total laparoscopic right hepatectomy remains a challenging procedure especially in patients with large tumor. This video illustrates an useful technique for total laparoscopic right hepatectomy which was successfully performed in patient with large hepatoma.

Methods: We demonstrate the patient with large tumor locating in right lobe of liver who underwent a total

laparoscopic right hepatectomy. Anterior approach technique combined with Glissonian approach were used. The main steps of this technique are extraparenchymal control of right Glissonian pedicle en masse without liver dissection, parenchymal transection along the demarcation line, transection of right Glissonian pedicle, separation of whole right liver parenchyma, control and division of right hepatic vein and mobilization of the right liver from surrounding ligaments. No Pringle's maneuver was used.

Results: The technique was successfully done without complication. The operative time was 560 min. Intraoperative blood loss was 1,100 ml. The length of hospital stay was 6 days. Pathological report was well-differentiated HCC and free surgical margin.

Conclusion: Total laparoscopic right hepatectomy for large hepatoma by using the Glissonian pedicle control with anterior approach is feasible and safe.

RIGHT ANTERIOR SECTIONECTOMY: HYBRID TECHNIQUE

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Introduction: In this era of minimal invasive surgery, laparoscopic liver resection have been performed with efficacy and safety comparable to an open procedure. Many techniques were developed for reduced operative time and unnecessary blood transfusion. We presented hybrid technique in which the liver was mobilized laparoscopically and resected with specimen removed through a small incision.

Methods: We presented a case of cholangiocarcinoma involving segment V and VIII of liver which right anterior sectionectomy was performed by hybrid technique. Operation started with mobilization of the right lobe of liver by laparoscopic procedure then right small subcostal incision was made between subcostal ports. Right anterior portal pedicle and IVC were encircled and clamped, followed by right anterior sectionectomy which was performed under direct laparoscopic vision.

Results: Operation was performed without intra-operative complication. Operative time was 240 minutes and blood loss was 300 ml. Post-operative course was uneventful. Patient was discharged on 8th post-operative day. Pathological report revealed a 4 × 3 × 3 cm well differentiated cholangiocarcinoma with free resection margin.

Conclusions: Hybrid technique is one of laparoscopic techniques that can be safely performed in selected patient with liver cancer. With increasing experience, hybrid technique is likely to become an appropriate alternative to open resection.

DUAL PORT LAPAROSCOPIC LIVER RESECTION

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Background: Laparoscopic liver resection has been increasingly performed over the last two decades. The technique has improved since the first time it was published in 1991 by Risch. Many reports have shown that liver resection can be done efficiently and safely using laparoscopic approach for benign and malignant liver lesion. The advantages of laparoscopic liver resection include less postoperative pain, shorter length of hospital stay, shorter time to recovery and a lower incisional hernia rate. Recently developed, single port-access surgery is of growing interest in an attempt to minimize abdominal wall trauma. However, One potential problem arising from this approach is the loss of triangular movement. The superior results about pain, length of hospital stay when compare with conventional technique are still debated. The fact that all liver resection cases drain was placed routinely suggests that all patients who undergo laparoscopic liver resection need at least 2 wound (port); one is wound for specimen retrieval and the another one for drain. We would like to demonstrate and share technique of dual port laparoscopic liver resection that seems to be more comfortable for laparoscopic surgeon.

Method: The 62 years old male who had history of HBV infection was found to have left lobe liver mass from ultrasonography. CT scan result was compatible with hepatocellular carcinoma at segment II and III size 5 × 5 cm. The liver function test is in normal range. All parameters of Child Pugh classification are in class A. The patient was placed in French position. We placed SILS port (Covidien) or Alexis wound retractor with hand glove technique via 2.5 cm incision through the umbilicus. Camera, Dissector or Suction can be inserted via this port. The another 11 mm port position is depend on tumor location. In this case, we place 11 mm port at left subcostal mid clavicular line area. Hanging suture was done with silk and suture was grasped with Endoclose through skin. Anterior approach parenchymal transection was done with Harmonic scalpel and Ligasure sealing system via 11 mm port. Some hepatic vein branches that quite large were clipped with Endoclip. After complete transection was performed, we divided left triangular ligament. Jackson Pratt drain was placed along surgical bed via 11 mm port. Specimen was put in the bag and retrieved via umbilical port. Operative time was 2 hrs. Estimate blood loss was around 20 ml. No transfusion was

needed.

Results: Post - operative liver function test was in normal range. The patient needed opioid just one dose on first day after operation. Drain was removed on day 2. Length of hospital stay was 4 days. Two weeks after operation, the patient could regain normal activity and show no wound complication.

Conclusion: Dual port laparoscopic liver resection is safe and feasible for benign or malignant liver lesion in selected case. Further evaluation of this procedure is warranted.

COMPARISON OF TUMOR NECROSIS FACTOR-α AND INTERLEUKIN-6 RESPONSES TO LIPOPOLYSACCHARIDE FOR PATIENTS WITH COMMON BILE DUCT OBSTRUCTION DUE TO HILAR-CHOLANGIOCARCINOMA AND BENIGN BILIARY TRACT OBSTRUCTION DISEASE

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Background: One of the most common causes of hilar-cholangiocarcinoma death is severe infection from acute cholangitis. However, there are no previous studies into whether the systemic inflammatory response due to hilar-cholangiocarcinoma infection is more severe than the systemic inflammatory response due to benign biliary tract obstruction disease.

Objective: Therefore, our objective is to study the level of pro-inflammatory cytokines Tumor Necrosis Factor-α (TNF-α) and Interleukin-6 (IL-6) secreted from Peripheral Blood Mononuclear Cells (PBMCs) when stimulated with Lipopolysaccharide (LPS) in patients with Common Bile Duct (CBD) obstruction due to hilar-cholangiocarcinoma and benign biliary tract obstruction disease.

Methods: PBMCs were isolated from 17 patients with hilar-cholangiocarcinoma, 16 patients with benign biliary tract obstruction disease and 18 control patients with neither disease. These patients were being treated at Rajavithi Hospital from April 2011 to November 2011. PBMCs were cultured with or without LPS for 24 hours. The levels of TNF-α and IL-6 secreted from the PBMCs were subsequently detected by ELISA.

Statistical Analysis: The sample sizes were calculated by Program N Query advisor, a Paired T-test was used with a significance level of $P < 0.05$, with a SD equal to 90 and a power equal to 95%. Results are expressed as median and range for quantitative data compared between the two CBD obstruction patient groups. If the data was normally distributed then we used student t-test, otherwise the Mann-whitney U test was used. All results were calculated using SPSS. Probabilities of less than 0.05 were accepted as significant.

Results: The levels of TNF-α and IL-6 secreted from PBMCs when not stimulated with LPS were not detectable. Whereas, the levels of TNF-α and IL-6 secreted from PBMCs when stimulated with LPS were detectable (median TNF-α =156.44 pg/ml; range 0 - 1,029.34 pg/ml and median IL-6= 281.46 pg/ml; range 0-418.3 pg/ml). There were no significant differences in the levels of TNF-α and IL-6 secreted from PBMCs when stimulated with LPS between hilar-cholangiocarcinoma and benign biliary tract obstruction disease patients (median TNF-α =187.12 pg/ml vs. 86.89 pg/ml; $p = 0.097$ and median IL-6 = 392.74 pg/ml vs. 233.74 pg/ml; $p = 0.069$). However, the level of TNF-α secreted from PBMCs when stimulated with LPS in control patients with neither disease is significantly higher than those obtained from CBD obstruction patients (median TNF-α=187.12 pg/ml (hilar-cholangiocarcinoma) vs. 86.89 pg/ml (benign) vs. 539 pg/ml (control patients with neither disease); $p = 0.024$). The level of TNF-α secreted from PBMCs when stimulated with LPS in control patients with neither disease was also significantly higher than those obtained from benign biliary obstruction group ($p = 0.008$).

Conclusion: There are no significant differences in the levels of TNF-α and IL-6 secreted from PBMCs when stimulated with LPS between hilar-cholangiocarcinoma and benign biliary tract obstruction disease patients. Whereas, the level of TNF-α secreted from PBMCs when stimulated with LPS in control patients with neither disease is significantly higher than those obtained from CBD obstruction patients.

OUTCOME OF SURGERY IN CHRONIC PANCREATITIS; 10 YEARS EXPERIENCE IN KING CHULALONGKORN MEMORIAL HOSPITAL

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Background: Chronic pancreatitis is often characterized by persistent severe abdominal pain accompanied by progressive pancreatic endocrine and exocrine insufficiency often requiring multiple hospitalizations. The treatment ofchronic pancreatitis remains a challenging problem. A broad spectrum of surgical procedures has been applied, aimed primarily at the relief of pain and the management of complications associated with chronic pancreatitis.

Objectives: This retrospective study examined

outcome, quality of life, and relief of symptoms in patients underwent surgery for chronic pancreatitis in King Chulalongkorn Memorial Hospital.

Material and Methods: Between April, 2001-April 2011, a total of 31 patients underwent surgery for chronic pancreatitis in King Chulalongkorn Memorial Hospital. A quality of life questionnaire containing 13 items graded on a scale of 0 to 10 (0 = worst and 10 = best) was asked to patients by phone calls in 18 patients (3 patients already expired and 10 patients gave no response).

Results: The most common presenting symptoms were abdominal pain (97%), jaundice (27%), steatorrhea (7%) and ascites (3%). Patients have medical history of smoking 63%, alcohol abuse 73%, hypertension 10% and diabetes 39%. Twenty eight of the 31 patients were alive at the time of follow-up. Eighteen patients reported improvements in all aspects of the quality of life survey including enjoyment out of life, satisfaction with life, pain, number of hospitalizations, feelings of usefulness and overall health (P<0.005).

Conclusion: Surgery remains an excellent option for patients with chronic pancreatitis.

SINGLE INCISION LAPAROSCOPIC CHOLECYSTECTOMY (THROUGH 10 MM. UMBILICAL INCISION) WITHOUT SPECIAL INSTRUMENTS COMPARED WITH CONVENTIONAL LAPAROSCOPIC CHOLECYSTECTOMY: A PRELIMINARY REPORT

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Introduction: In recent years, the interests in Single Incision Laparoscopic Cholecystectomy (SILC) as the treatment of gallbladder disease were increasing. Some previous studies showed the safety and feasibility of this procedure. Until now, there are still no comparative study between SILC and conventional LC in Thailand.

Methods: During the period from January 2010 to December 2011, data from all patients with inclusion criteria undergoing SILC and LC were retrospectively analyzed and compared. Outcomes, including operative time, completion rate, postoperative pain score, length of stay, operative cost, and complications, were measured.

Results: From 51 patients that met the inclusion criteria during the period of study, 27 patients were attempted SILC and the others were attempted LC. The success rate of SILC was 77.8%, while the remainders needed only one additional incision. The comparison between SILC and LC showed that there were no significant differences in operative time, postoperative pain score, length of stay, operative costs, and complication rate.

Conclusion: SILC by our technique is the procedure which is as effective as conventional LC. It is safe and feasible for the selected patients undergoing cholecystectomy. The technique needs no special expensive instruments and the incision was only 10 mm. Satisfaction in cosmetic result is very high. This is suitable for Asian patients in the developing country such as Thailand.

CLINICAL FEATURES, TREATMENT OUTCOMES AND FACTORS INFLUENCING SURVIVAL OF SPONTANEOUS RUPTURED HEPATOCELLULAR CARCINOMA: A SRINAGARIND HOSPITAL-BASED STUDY, 1997-2011

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Background: Spontaneous rupture is a complication of hepatocellular carcinoma which causes high mortality rate in patients with cirrhotic liver. There are many studies reporting its treatment outcomes and survival - but none from the northeastern part of Thailand.

Objective: This research was to investigate clinical features, treatment outcomes and survival of patients who had spontaneous rupture of hepatocellular carcinoma (HCC). Factors influencing their survival were also studied.

Method: All cases with the diagnosis of HCC with spontaneous rupture from 1997 to 2011 were included in this study. Their medical records were retrospectively reviewed.

Results: The medical records of 94 patients were reviewed in this study. Eighty five percentages were female. Their ages ranged from 15 to 83 with an average of 53.5 (SD = 12.3). Using Child-Pugh staging, the percentages of patients with Class A, B and C were 8%, 45% and 47%, respectively. The most common cause of HCC was hepatitis B infection (54.3%). The symptoms and signs presented when diagnosed were: hypotension and/or anemia (74%) and signs of cirrhosis (53%). Fifty-one percentages of them were known cases of either cirrhotic liver disease or HCC. The overall median survival time was 18 days (95%CI 10.59-25.41) and the survival rates at 7days, 30 days, 90 days, and 1 year were 73.2%, 42.0%, 20.5%, and 6.1%, consecutively. Median survival of embolized patients and non-embolized patients (conservative and surgical treatment) were 34 VS 9 days (p=0.0005). The factors influencing survival were shock at presentation (HR = 4.26, 95%CI 2.65-6.84, p<0.0001) and receiving embolization (HR=0.41, 95%CI 0.26-0.64, p=0.0001).

Conclusion: The presentations and onset of spontaneous rupture of HCC are varied, especially in patients with poor hepatic function. Generally, the treatment outcomes and survival of patients suffered from this condition are miserably poor. Shock at presentation is a precise predictor for bad prognosis. Embolization is essential to increase survival rate.

OUTCOMES OF ORTHOTOPIC LIVER TRANSPLANTATION IN NON-MALIGNANT END STAGE LIVER DISEASES AT SIRIRAJ HOSPITAL

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Background: Orthotopic liver transplantation is an effective treatment modality for patients with end stage liver diseases. The pathological, clinical factors and overall results of liver transplantation for patients with non-malignant disease, performed by Siriraj Hospital during January 2002-December 2011, were reviewed.

Objectives: 1. To evaluate the etiology of non-malignant end stage liver diseases from explanted liver.
2. To evaluate pathological, clinical factors determining the outcomes of liver transplantation.

Material and Methods: The histopathology of all explanted liver were reviewed by a pathologist. The data was correlated to the retrospective clinical data collected in the Siriraj Organ Transplant Unit.

Results: From January 2002-December 2011, one hundred and thirty-seven liver transplantations in adult were performed. Pathology revealed non-HCC diseases in 72 patients, of which fulminant hepatic failure (FHF) was documented in 12 patients. Indications for transplantation in non-HCC group were chronic viral hepatitis B (29%), hepatitis C (25%) and alcoholic liver disease (14%). The average MELD score in FHF group and non-FHF group were 40 and 22 respectively. Waiting time was 4.6 days (1-9) in FHF group and 223 days (4-1264) in non-FHF group. No significant differences in term of operative times and length of hospital stay were observed. Overall one- and five-year survival were 90% and 83% respectively in FHF group compared to non-FHF group, which revealed 72% and 62%. There was no significant differences between two groups. Septic complications remained the most common causes of death in late phase.

Conclusion: Outcomes of liver transplantation in non-malignant patients were comparable in FHF and non-FHF group in term of survival. However there was limitation of this study, due to the numbers of FHF group was too little.

EFFECTS OF PERIOPERATIVE FLUID RESTRICTION THERAPY IN HEPATECTOMY

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Background: Blood loss during major hepatectomy constitutes the primary determinant of the postoperative outcome. Massive intraoperative hemorrhage occurred in this procedure is caused by many factors such as underlying diseases, coagulopathy and excessive fluid replacement. Therefore, the effect of perioperative fluid restriction therapy in hepatectomy was studied.

Methods: The randomized controlled trail was studied in 37 patients who underwent major hepatectomy in the Department of Surgery of Siriraj hospital during Jan 2011-Jun 2012. Eighteen patients were included in the perioperative restricted fluid regimen and the other was randomized into the standard group. Intraoperative bleeding and secondary outcomes (morbidity and mortality postoperatively and length of postoperative hospital stay) were analyzed.

Results: Bisegmentectomy were performed in six patients in each group whereas other patients were either right or left hepatectomy. Intraoperative bleeding in the restricted group was 536 [62-2500] ml compared to 827 [50-3171] ml in the standard group (p = 0.387). The operative time was 138 [60-240] minutes in the restricted group compared to 150 [50-280] minutes (p =0.287). There was no significant difference in the morbidity, mortality and length of hospital stay between the two groups.

Conclusion: Restricted fluid regimen in major hepatectomy trended to have total blood loss less than in the standard group. The morbidity, mortality and length of hospital stay were not different between the two groups.

HOW TO IMPROVE OUTCOMES OF PATIENTS UNDERWENT LIVER RESECTION

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Background: Enhanced recovery after surgery (ERAS) has been accepted as the process which improves surgical outcomes especially in colorectal surgery. When combined this policy with liver resection that accepted as standard treatment of liver tumors, it may enhance and promote surgical results.

Objectives: The aim of this study is to evaluate the outcomes of patients underwent liver resection by applying ERAS program.

Materials and Methods: All patients undergoing liver

resection during January 2007 to April 2011 at King Chulalongkorn Memorial Hospital were included into this study. Patient characteristics, preoperative factors, operative data, postoperative care which correlated to ERAS components and postoperative outcomes were recorded. Outcomes including postoperative length of stay (LOS), intensive care stay, complication, rate of reoperation, intervention treatment and mortality were compared between the patients in ERAS group (applied ERAS components ≥ 4 components) and Conventional group (applied ERAS components < 4 components).

Results: A total of 347 patients were enrolled into the study. There were 165 and 182 patients in ERAS and Conventional group, respectively. When compared between 2 groups: mean postoperative LOS, mean ICU stay, re-operation rate and re-intervention rate were better in ERAS group (10.64 vs. 16.76 days; p=0.000, 0.43 vs. 1.25 days; p=0.000, 1.2% vs. 4.9%; p=0.47 and 15% vs. 27%; p=0.005, respectively). There were no significant differences in complication rate and mortality rate (31% vs. 40%; p=0.96, 0.6% vs. 1.0%; p=0.62, respectively).

Conclusion: Outcomes in patients underwent liver resection can be fastened and improved by applying ERAS program into the perioperative period.

LONGITUDINAL PANCREATICOJEJUNOSTOMY FOR CHRONIC PANCREATITIS DUE TO OBSTRUCTION OF PANCREATICO-DIGESTIVE ANASTOMOSIS FOLLOWING PANCREATICODUODENECTOMY

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Background: Pancreatico-digestive anastomosis stricture is one of postoperative complication after pancreaticoduodenectomy. This obstruction became apparent many years following surgery. Stricture of anastomosis may associate with abdominal pain, deterioration of pancreatic function, chronic pancreatitis.

Objectives: Stricture of pancreatico-digestive anastomosis is treated by refashioning of the pancreaticojejunostomy. Endoscopic dilatation is possible treatment option but may failed due to difficult anatomy after previous operation. Surgical intervention by longitudinal pancreatico-jejunostomy is an option after failure of endoscopic therapy.

Materials and Methods: A 49-year-old man with a benign pancreatic tumor underwent classical pancreaticoduodenectomy, reconstructed with pancreaticojejunostomy in 2007. He began to complain about severe upper abdominal pain with radiate to back for the past 2 months. Abdominal CT scan showed dilatation of main pancreatic duct and multiple pancreaticolithiasis. Endoscopic management was failed due to difficult anatomy. Longitudinal pancreaticojejunostomy was performed without resection of the stricture anastomosis and pancreatic stone was removed.

Results: The postoperative recovery was uneventful. The symptom of abdominal pain is resolved and the patient was discharged from the hospital at 10 days after operation.

Conclusions: We conclude that longitudinal pancreaticojejunostomy is a safe and effective surgical intervention for treatment of chronic pancreatitis due to obstruction of pancreatico-digestive anastomosis following pancreaticoduodenectomy

RUPTURED AMOEBIC LIVER ABSCESS SUCCESSFULLY TREATED WITH LAPAROSCOPIC DRAINAGE : A CASE REPORT

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Background: Amoebic liver abscess is the most common presentation of extra colonic amoebiasis. The most frequent complication is ruptured into peritoneal cavity with incidence about 3-5 percent. While percutaneous drainage is the first-line treatment in most cases of unruptured liver abscess, open surgical drainage may be necessary in cases of rupture. We report a case of ruptured liver abscess successfully treated with laparoscopic drainage.

Case Report: A 42-year-old man, who had a history of heavy alcoholic consumption, presented with symptoms of low grade fever and right upper quadrant abdominal pain for 10 days. The patient had no history of prior dysenteric symptoms. The physical examination revealed body temperature of 38 °C, hepatomegaly and tenderness at right upper abdomen. The patient had marked leukocytosis and elevated alkaline phosphatase whereas serum bilirubin was mildly increased. The ultrasonography showed hepatomegaly and ill-defined heterogeneous increased parenchymal echogenicity 9.7 × 6.2 cm at right lobe of the liver. The computed tomography (CT) scan was found to have an ill-defined low density area of 10 × 6 cm at segment VI and VII of the right hepatic lobe with moderate free fluid intraperitoneal and pelvic cavity. After 3-day course of intravenous administration of Ceftriaxone and Metronidazole, the patient's symptom was not improved. Diagnosis of ruptured liver abscess was confirmed by MRI. Laparoscopy was performed and liver abscess was drained. There was about 1,000 ml of pus collection (anchovy sauce-like) in the liver abscess and peritoneal cavity. Three

Jackson-Pratt drains were placed after abdominal toilet with normal saline irrigation. There were no intraoperative complications. The pus culture was negative for bacteria. The serology test for E. histolytica antibody was positive > 1:1024. Final diagnosis was ruptured amoebic liver abscess. The postoperative period was uneventful. The subsequent CT scan at 2 week postoperative time showed improvement of liver abscess.

Conclusion: Laparoscopic drainage of ruptured amoebic liver abscess is as safe procedure and appropriate alternative option for open surgical drainage.